



UNDERGROUND COAL MINING  
**PRODUCT CATALOGUE**

2020



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**Manuli Hydraulics are focused on achieving excellence in the design, manufacture and supply of fluid conveyance solutions, components and associated equipment for high pressure hydraulic applications. Encompassed within this, they are a specialist manufacturer of staple adaptors and ball valves extensively used in underground mining operations.**

Staple connections are an integral part of the hydraulic circuit in underground mining operations which use “long wall” roof support technology. They have a proven track record of being the best option for connecting and disconnecting hydraulic lines, in a tough and challenging environment. The staple design provides a simple, easy and effective way to connect, disconnect and isolate hydraulic lines even in complicated or compact applications.

Manuli Hydraulics has experienced engineering personnel capable of developing and designing new adaptors for specialist applications, and recognises this as an important service to the underground mining industry.

All Manuli Hydraulics underground mining products are manufactured to meet or exceed international underground mining specifications and are supplied from a modern, well equipped ISO 9001 facility. Staple adaptors and ball valves are available from size DN6 (1/4”) up to DN76 (3”).



ASA01	6
ASA02	7
ASA03	8
ASA03	9
ASA03Y	10
ASA04	10
ASA06	11
ASA07	12
ASA08	13
ASA08D	14
ASA08D	16
ASA08D-DH	15
ASA11	17
ASA12	18
ASA13	19
ASA15	20
ASA16	74
ASA16B	75
ASA16W	75
ASA18	69
ASA19	70
ASA21	20
ASA21	21
ASA28	22
ASA29	23
ASA31	25
ASA31F	24
ASA32	27
ASA32F	26
ASA33	28
ASA34	29
ASA34F	28
ASA35	30
ASA35	30
ASA35F	29
ASA40	76
ASA40C	77
ASA41C	78
ASA42	79
ASA44	80
ASA46	81
ASA48	82
ASA50	83
ASA52	84
ASA55	85
ASA56	86
ASA56L	87
ASA56XL	88
ASA60	89
ASA62	90
ASA65	91
ASA66	92

ASA66L	93
ASA66XL	94
ASAF/ASAFP31-VIC-XX	80
ASAF01	48
ASAF01-SA	49
ASAF02	50
ASAF03	50
ASAF03-SA	51
ASAF06	52
ASAF08	53
ASAF18	69
ASAF19	70
ASAF21	54
ASAF21-SA	55
ASAF21-XX-VIC	56
ASAF28	58
ASAF29	59
ASAF31-VIC-XX	62
ASAF31F-SA-XX	60
ASAF31F-XX-SA	60
ASAF31F-XX-XX	61
ASAF32	63
ASAF34-XX-XX-SA	64
ASAF40	97
ASAF46	97
ASAF50	98
ASAF56	98
ASAFP01	48
ASAFP01-SA	49
ASAFP06	52
ASAFP08	53
ASAFP21	54
ASAFP21-SA	55
ASAFP21-XX-VIC	57
ASAFP29	59
ASAFP31	61
ASAFP31-VIC-XX	62
ASAFP32	63
ASAFP34-XX-XX-SA	64
ASAFV01	104
ASAFV31	104
ASAV01	100
ASAV01	100
ASAV01	101
ASAV11	103
ASAV31	103
ASAV31F	102
ASAV31F	102
ASAV31F	102
ASH01	32
ASH02	32
ASH03	33

ASH06	33
ASH08	34
ASH08D	35
ASH08D	37
ASH08D-DH	36
ASH12	38
ASH13	38
ASH18 - ASHF18	71
ASH19 - ASHF19	72
ASH21	39
ASH21-XX-SAXX	40
ASH28	41
ASH29	41
ASH31	42
ASH31-XX-SAXX	43
ASH32	44
ASH32F	44
ASH35	45
ASH35	46
ASH35F	45
ASH40F	95
ASH46	95
ASH50	96
ASH56	96
ASHF01	65
ASHF02	65
ASHF03	66
ASHF08D	66
ASHF18	96
ASHF19	97
ASHF28	67
ASHF29	67
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ASHV01	105
ASHV01	105
ASHV31	106
ASHV31-1PL	106



## ASA Series Staple Adaptors

The ASA SERIES is the traditional design of staple adaptor available with male and female staple ends as well as threaded options.

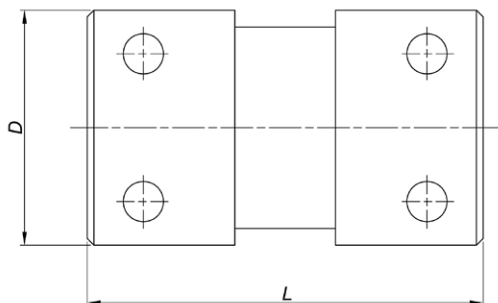
The ASA staple adaptor is available in a wide range of configurations and sizes from DN6 (1/4") to DN76 (3"). Manuli Hydraulics' staple adaptors undergo surface treatment to produce a highly corrosion resistant surface, capable of meeting the demands of a tough working environment. To cope with extreme conditions, adaptors are also available in stainless steel.

The ASA staple adaptor meets or exceeds all International Standards including DIN 20043, BS 6537, SAE J1467 and NCB 638 and is subject to in-house burst and impulse testing to verify the product performance.



# STRAIGHT STAPLE FEMALE ADAPTOR

## SERIES ASA01

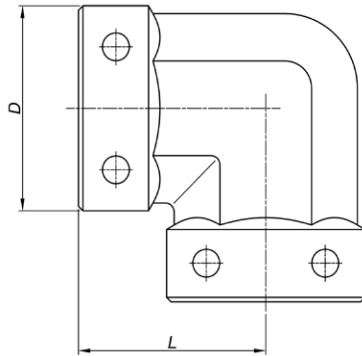


PART REF	NOMINAL BORE			L	D
	DASH	INCH	DN		
ASA01-04-04	4	1/4	6	58	25
ASA01-06-06	6	3/8	10	58	32
ASA01-08-08	8	1/2	12	59	35
ASA01-12-12	12	3/4	19	59	45
ASA01-16-16	16	1	25	67	55
ASA01-20-20	20	1.1/4	31	67	60
ASA01-24-24	24	1.1/2	38	75	76
ASA01-32-32	32	2	51	75	85
ASA01-40-40	40	2.1/2	63	136	100
ASA01-48-48	48	3	76	190	120

All dimensions in mm

# 90° STAPLE FEMALE ADAPTOR

## SERIES ASA02



PART REF	NOMINAL BORE			L	D
	DASH	INCH	DN		
ASA02-04-04	4	1/4	6	38	25
ASA02-06-06	6	3/8	10	38	32
ASA02-08-08	8	1/2	12	40	35
ASA02-12-12	12	3/4	19	42	45
ASA02-16-16	16	1	25	50	55
ASA02-20-20	20	1.1/4	31	54	62
ASA02-24-24	24	1.1/2	38	68	72
ASA02-32-32	32	2	51	71	85
ASA02-40-40	40	2. 1/2	63	107	106
*ASA02-48-48	48	3	76	162	120

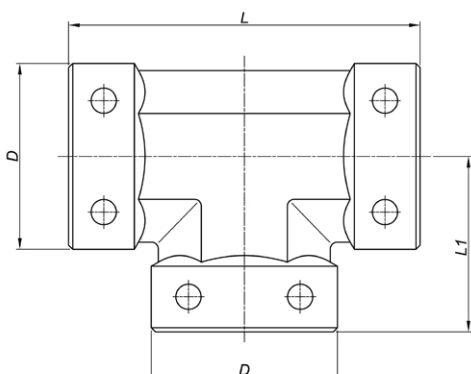
\* Welded design

# T PIECE STAPLE FEMALE ADAPTOR

SERIES ASA03

STAPLE  
ADAPTORS

8



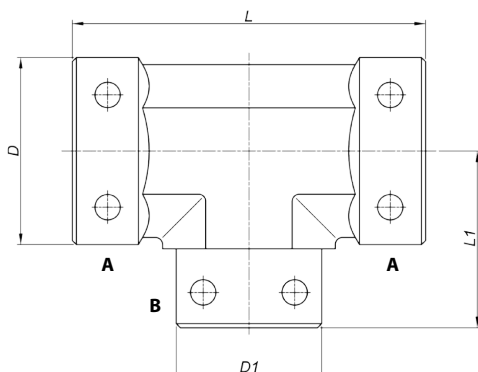
PART REF	NOMINAL BORE			L	L1	D
	DASH	INCH	DN			
ASA03-04-04-04	4	1/4	6	76	38	25
ASA03-06-06-06	6	3/8	10	76	38	32
ASA03-08-08-08	8	1/2	12	80	40	35
ASA03-12-12-12	12	3/4	19	84	42	45
ASA03-16-16-16	16	1	25	100	50	55
ASA03-20-20-20	20	1.1/4	31	108	54	60
ASA03-24-24-24	24	1.1/2	38	136	68	76
ASA03-32-32-32	32	2	51	142	71	85
*ASA03-40-40-40	40	2.1/2	63	300	150	106
*ASA03-48-48-48	48	3	76	407	203	120

\* Welded design

All dimensions in mm

# REDUCING T PIECE STAPLE FEMALE ADAPTOR

SERIES ASA03



STAPLE  
ADAPTORS

9

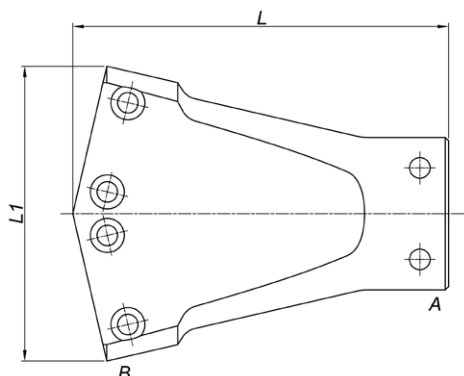
PART REF	NOMINAL BORE						L	D	L1	D1
	SIDE "A"			SIDE "B"						
	DASH	INCH	DN	DASH	INCH	DN				
ASA03-08-08-06	8	1/2	12	6	3/8	10	80	35	40	32
ASA03-12-12-06	12	3/4	19	6	3/8	10	86	45	43	32
ASA03-12-12-08	12	3/4	19	8	1/2	12	86	45	43	35
ASA03-16-16-06	16	1	25	6	3/8	10	100	55	50	32
ASA03-16-16-08	16	1	25	8	1/2	12	100	55	50	35
ASA03-16-16-12	16	1	25	12	3/4	19	100	55	50	45
ASA03-20-20-06	20	1.1/4	31	6	3/8	10	108	60	54	32
ASA03-20-20-08	20	1.1/4	31	8	1/2	12	108	60	54	35
ASA03-20-20-12	20	1.1/4	31	12	3/4	19	108	60	54	45
ASA03-20-20-16	20	1.1/4	31	16	1	25	108	60	54	55
ASA03-24-24-16	24	1.1/2	38	16	1	25	136	76	68	55
ASA03-24-24-20	24	1.1/2	38	20	1.1/4	31	136	76	68	60
ASA03-32-32-20	32	2	51	20	1.1/4	31	140	85	70	60
ASA03-32-32-24	32	2	51	24	1.1/2	38	140	85	70	76

All dimensions in mm



# Y PIECE STAPLE FEMALE ADAPTOR

SERIES ASA03Y

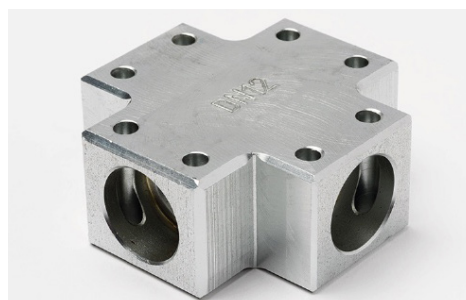
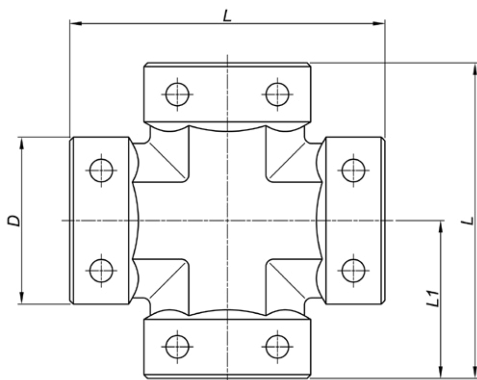


STAPLE ADAPTORS 10

PART REF	NOMINAL BORE						L	L1
	SIDE "A"			SIDE "B"				
	DASH	INCH	DN	DASH	INCH	DN		
ASA03Y-06-06-06	6	3/8	10	06	3/8	10	83	62
ASA03Y-08-08-08	8	1/2	12	08	1/2	12	95	70
ASA03Y-12-08-08	12	3/4	19	08	1/2	12	96	73
ASA03Y-12-12-12	12	3/4	19	12	3/4	19	107	80

# CROSS PIECE STAPLE FEMALE ADAPTOR

SERIES ASA04



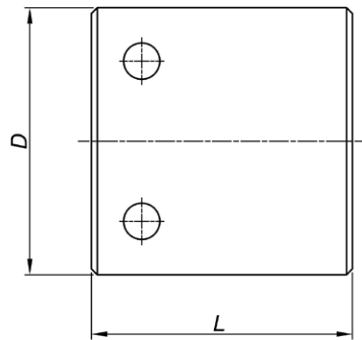
PART REF	NOMINAL BORE			L	L1	D
	DASH	INCH	DN			
ASA04-04-04-04-04	4	1/4	6	76	38	25
ASA04-06-06-06-06	6	3/8	10	76	38	32
ASA04-08-08-08-08	8	1/2	12	80	40	35
ASA04-12-12-12-12	12	3/4	19	84	42	45
ASA04-16-16-16-16	16	1	25	100	50	55
ASA04-20-20-20-20	20	1.1/4	31	108	54	60

All dimensions in mm



# STAPLE END CAP

## SERIES ASA06

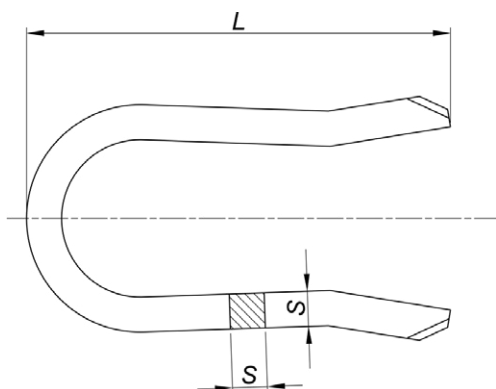


STAPLE  
ADAPTORS  
11

PART REF	NOMINAL BORE			L	D
	DASH	INCH	DN		
ASA06-04	4	1/4	6	39	25
ASA06-06	6	3/8	10	40	32
ASA06-08	8	1/2	12	43	35
ASA06-12	12	3/4	19	44	45
ASA06-16	16	1	25	52	55
ASA06-20	20	1.1/4	31	55	60
ASA06-24	24	1.1/2	38	65	76
ASA06-32	32	2	51	70	85
ASA06-40	40	2.1/2	63	112	106
ASA06-48	48	3	76	138	120

# STANDARD STAPLE

## SERIES ASA07



STAPLE ADAPTORS 12

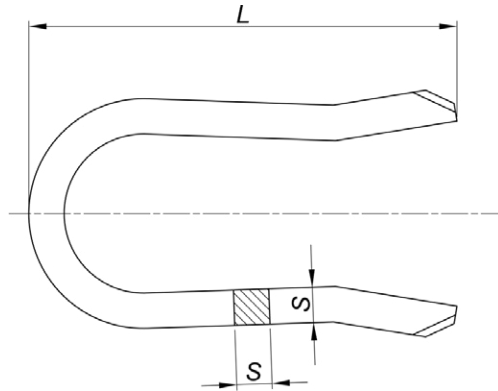
PART REF	NOMINAL BORE			S	L
	DASH	INCH	DN		
ASA07-04	4	1/4	6	4	38
ASA07-06	6	3/8	10	4	42
ASA07-08	8	1/2	12	4	48
ASA07-12	12	3/4	19	4	55
ASA07-16	16	1	25	6	74
ASA07-20	20	1.1/4	31	6	83
*ASA07-24FL	24	1.1/2	38	6	85
*ASA07-32FL	32	2	51	6	95

\* Staple has a flat top

All dimensions in mm

# STAINLESS STAPLE

## SERIES ASA08



STAPLE ADAPTORS

13

PART REF	NOMINAL BORE			S	L
	DASH	INCH	DN		
ASA08-04	4	1/4	6	4	38
ASA08-06	6	3/8	10	4	42
ASA08-08	8	1/2	12	4	48
ASA08-12	12	3/4	18	4	55
ASA08-16	16	1	25	6	74
ASA08-20	20	1.1/4	31	6	83
*ASA08-24	24	1.1/2	38	6	85
*ASA08-32	32	2	51	6	95
ASA08-40	40	2.1/2	63	6	100
ASA08-48	48	3	76	6	122

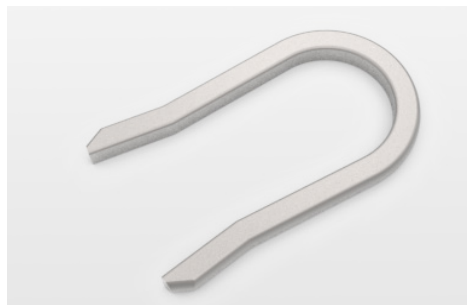
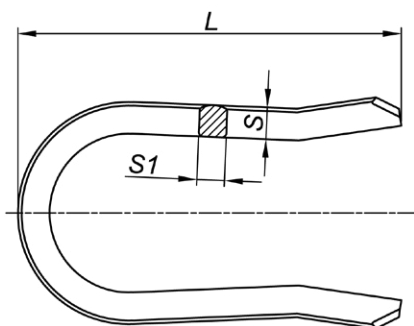
\*staple has a flat top

# STAINLESS D STAPLE

## SERIES ASA08D

STAPLE  
ADAPTORS

14



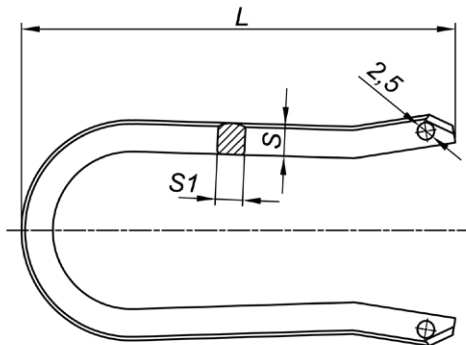
PART REF	NOMINAL BORE			S	S1	L
	DASH	INCH	DN			
ASA08D-04	4	1/4	6	4.6	4.5	39
ASA08D-06	6	3/8	10	4.6	4.5	42.5
ASA08D-08	8	1/2	12	4.6	4.5	48.5
ASA08D-12	12	3/4	19	4.6	4.5	55.5
ASA08D-16	16	1	25	6.6	6.5	74.5
ASA08D-20	20	1.1/4	31	6.6	6.5	83.5
*ASA08D-24	24	1.1/2	39	6.6	6.5	85.5
*ASA08D-32	32	2	51	6.6	6.5	95.5
*ASA08D-40	40	2.1/2	63	6.6	6.5	110
*ASA08D-48	48	3	76	6.6	6.5	120

\*staple has a flat top

All dimensions in mm

# DRILLED HOLES STAINLESS D STAPLE

## SERIES ASA08D-DH



STAPLE ADAPTORS  
15

PART REF	NOMINAL BORE			S	S1	L
	DASH	INCH	DN			
ASA08D-06-44-DH	6	3/8	10	4.6	4.5	44
ASA08D-06-78-DH	6	3/8	10	4.6	4.5	78
ASA08D-06-100-DH	6	3/8	10	4.6	4.5	100
ASA08D-08-52-DH	8	1/2	12	4.6	4.5	52
ASA08D-12-63-DH	12	3/4	19	4.6	4.6	63
ASA08D-16-81-DH	16	1	25	6.6	6.5	81
ASA08D-20-90-DH	20	1.1/4	31	6.6	6.5	90
*ASA08D-32-106-DH	32	2	51	6.6	6.5	106
*ASA08D-32-115-DH	32	2	51	6.6	6.5	115
*ASA08D-32-123-DH	32	2	51	6.6	6.5	123
*ASA08D-32-130-DH	32	2	63	6.6	6.5	130
*ASA08D-40-115-DH	40	2.1/2	51	6.6	6.5	115
*ASA08D-40-123-DH	40	2.1/2	51	6.6	6.5	123
*ASA08D-40-130-DH	40	2.1/2	51	6.6	6.5	130

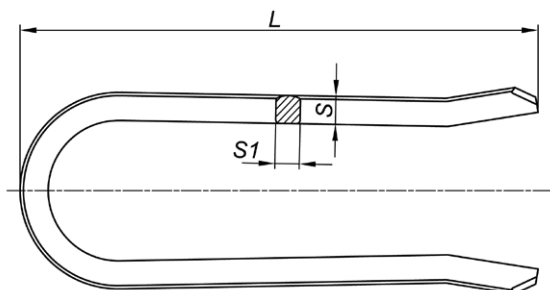
\*staple has a flat top

# EXTRA LONG STAINLESS D STAPLE

## SERIES ASA08D

STAPLE  
ADAPTORS

16



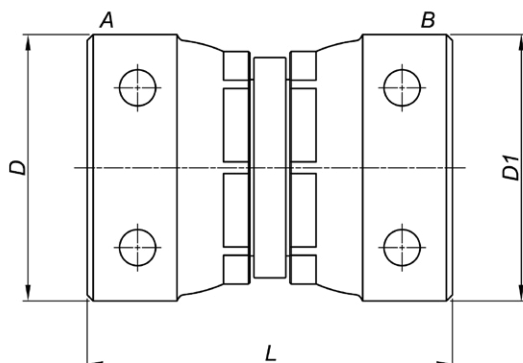
PART REF	NOMINAL BORE			S	S1	L
	DASH	INCH	DN			
ASA08D-04-73	4	1/4	6	4.6	4.5	73
ASA08D-06-50	6	3/8	10	4.6	4.5	50
ASA08D-06-55	6	3/8	10	4.6	4.5	55
ASA08D-06-78	6	3/8	10	4.6	4.5	78
ASA08D-06-82	6	3/8	10	4.6	4.5	82
ASA08D-06-85	6	3/8	10	4.6	4.5	85
ASA08D-06-90	6	3/8	10	4.6	4.5	90
ASA08D-06-100	6	3/8	10	4.6	4.5	100
ASA08D-08-90	8	1/2	12	4.6	4.5	90
ASA08D-08-100	8	1/2	12	4.6	4.5	100
ASA08D-08-108	8	1/2	12	4.6	4.5	108
ASA08D-08-110	8	1/2	12	4.6	4.5	110
ASA08D-12-60	12	3/4	19	4.6	4.5	60
ASA08D-12-65	12	3/4	19	4.6	4.5	65
ASA08D-12-80	12	3/4	19	4.6	4.5	80
ASA08D-12-100	12	3/4	19	4.6	4.5	100
ASA08D-16-105	16	1	25	6.6	6.5	105
*ASA08D-32-105	32	2	51	6.6	6.5	105
*ASA08D-32-123	32	2	51	6.6	6.5	123

\*staple has a flat top

All dimensions in mm

# STRAIGHT SWIVEL STAPLE FEMALE ADAPTOR

SERIES ASA11

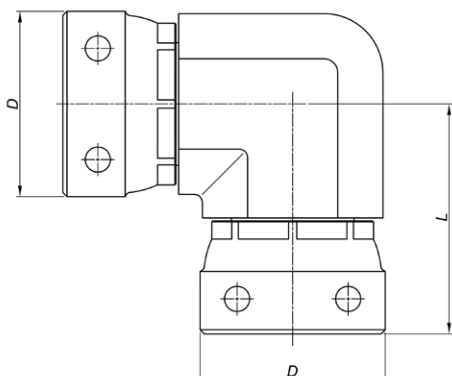


PART REF	NOMINAL BORE						L	D	D1
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASA11-04-04	4	1/4	6	4	1/4	6	62	25	25
ASA11-06-04	6	3/8	10	4	1/4	6	62	32	25
ASA11-06-06	6	3/8	10	6	3/8	10	62	32	32
ASA11-08-04	8	1/2	12	4	1/4	6	65	35	25
ASA11-08-06	8	1/2	12	6	3/8	10	65	35	32
ASA11-08-08	8	1/2	12	8	1/2	12	63	35	35
ASA11-12-06	12	3/4	19	6	3/8	10	65	45	32
ASA11-12-08	12	3/4	19	8	1/2	12	65	45	35
ASA11-12-12	12	3/4	19	12	3/4	19	63	45	45
ASA11-16-06	16	1	25	6	3/8	10	76	60	32
ASA11-16-08	16	1	25	8	1/2	12	76	60	35
ASA11-16-12	16	1	25	12	3/4	19	77	60	45
ASA11-16-16	16	1	25	16	1	25	83	60	60
ASA11-20-08	20	1.1/4	31	8	1/2	12	76	60	35
ASA11-20-12	20	1.1/4	31	12	3/4	19	76	60	45
ASA11-20-16	20	1.1/4	31	16	1	25	83	60	60
ASA11-20-20	20	1.1/4	31	20	1.1/4	31	83	60	60

All dimensions in mm

# 90° SWIVEL STAPLE FEMALE ADAPTOR

SERIES ASA12



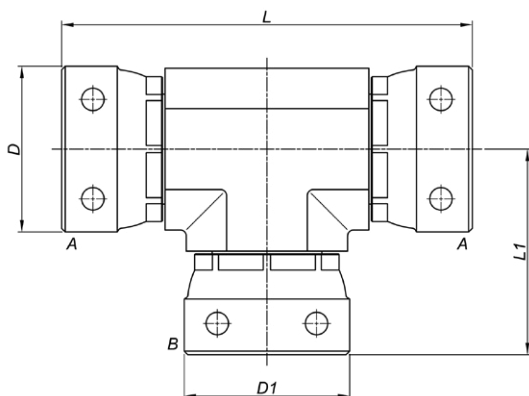
PART REF	NOMINAL BORE			L	D
	DASH	INCH	DN		
ASA12-04-04	4	1/4	6	44	25
ASA12-06-06	6	3/8	10	44	32
ASA12-08-08	8	1/2	12	48	35
ASA12-12-12	12	3/4	19	57	45
ASA12-16-16	16	1	25	68	60
ASA12-20-20	20	1.1/4	31	68	60

All dimensions in mm



# T SWIVEL STAPLE FEMALE ADAPTOR

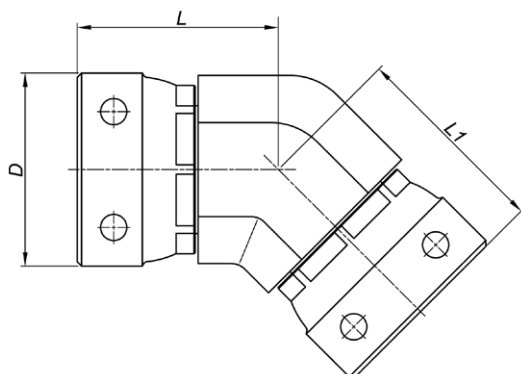
SERIES ASA13



PART REF	NOMINAL BORE						L	L1	D	D1
	SIDE "A"			SIDE "B"						
	DASH	INCH	DN	DASH	INCH	DN				
ASA13-04-04-04	4	1/4	6	4	1/4	6	88	44	25	25
ASA13-06-06-06	6	3/8	10	6	3/8	10	88	44	32	32
ASA13-08-08-06	8	1/2	12	6	3/8	10	96	48	35	32
ASA13-08-08-08	8	1/2	12	8	1/2	12	96	48	35	35
ASA13-08-08-12	8	1/2	12	12	3/4	19	96	57	35	45
ASA13-12-12-06	12	3/4	19	6	3/8	10	114	57	45	32
ASA13-12-12-08	12	3/4	19	8	1/2	12	114	57	45	35
ASA13-12-12-12	12	3/4	19	12	3/4	19	114	57	45	45
ASA13-16-16-06	16	1	25	6	3/8	10	134	60	60	32
ASA13-16-16-08	16	1	25	8	1/2	12	134	60	60	35
ASA13-16-16-12	16	1	25	12	3/4	19	136	64	60	45
ASA13-16-16-16	16	1	25	16	1	25	134	68	60	60
ASA13-20-20-06	20	1.1/4	31	6	3/8	10	134	68	60	32
ASA13-20-20-08	20	1.1/4	31	8	1/2	12	134	68	60	35
ASA13-20-20-12	20	1.1/4	31	12	3/4	19	134	68	60	45
ASA13-20-20-16	20	1.1/4	31	16	1	25	134	72	60	60
ASA13-20-20-20	20	1.1/4	31	20	1.1/4	31	136	68	60	60

# 135° SWIVEL STAPLE FEMALE ADAPTOR

SERIES ASA15

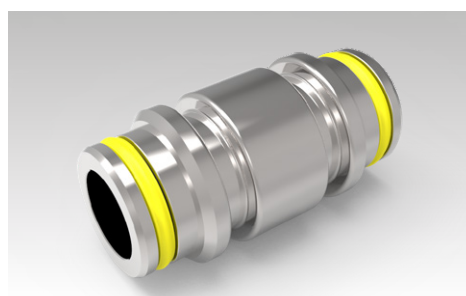
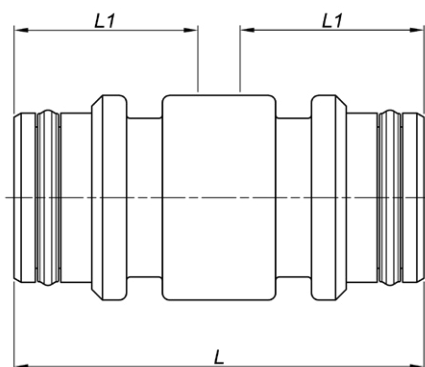


STAPLE ADAPTORS 20

PART REF	NOMINAL BORE			L	L1	D
	DASH	INCH	DN			
ASA15-04-04	4	1/4	6	39	39	25
ASA15-06-06	6	3/8	10	39	39	32
ASA15-08-08	8	1/2	12	40	40	35
ASA15-12-12	12	3/4	19	48	48	45
ASA15-16-16	16	1	25	54	54	60
ASA15-20-20	20	1.1/4	31	54	54	60

# PARALLEL STRAIGHT MALE STAPLE ADAPTOR

SERIES ASA21

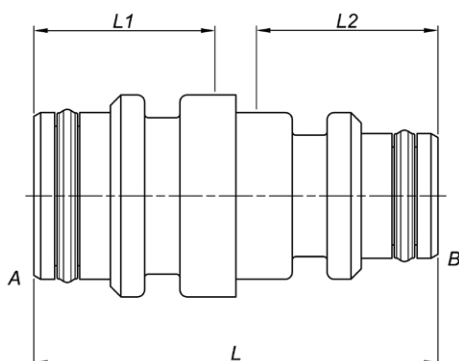


PART REF	NOMINAL BORE			L	L1
	DASH	INCH	DN		
ASA21-04-04	4	1/4	6	58	26
ASA21-06-06	6	3/8	10	58	26
ASA21-08-08	8	1/2	12	58	26
ASA21-12-12	12	3/4	19	58	26
ASA21-16-16	16	1	25	69	32
ASA21-20-20	20	1.1/4	31	69	32
ASA21-24-24	24	1.1/2	38	80	36
ASA21-32-32	32	2	51	80	36
ASA21-40-40	40	2.1/2	63	140	65
ASA21-48-48	48	3	76	150	70

All dimensions in mm

# REDUCING STRAIGHT MALE STAPLE ADAPTOR

SERIES ASA21



STAPLE ADAPTORS

21

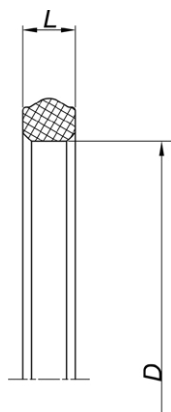
PART REF	NOMINAL BORE						L	L1	L2
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASA21-06-04	6	3/8	10	4	1/4	6	58	26	26
ASA21-08-04	8	1/2	12	4	1/4	6	58	26	26
ASA21-08-06	8	1/2	12	6	3/8	10	58	26	26
ASA21-12-06	12	3/4	19	6	3/8	10	58	26	26
ASA21-12-08	12	3/4	19	8	1/2	12	58	26	26
ASA21-16-06	16	1	25	6	3/8	10	64	32	26
ASA21-16-08	16	1	25	8	1/2	12	64	32	26
ASA21-16-12	16	1	25	12	3/4	19	64	32	26
ASA21-20-06	20	1.1/4	31	6	3/8	10	64	32	26
ASA21-20-08	20	1.1/4	31	8	1/2	12	64	32	26
ASA21-20-12	20	1.1/4	31	12	3/4	19	64	32	26
ASA21-20-16	20	1.1/4	31	16	1	25	70	32	32
ASA21-24-08	24	1.1/2	38	8	1/2	12	70	36	26
ASA21-24-12	24	1.1/2	38	12	3/4	19	70	36	26
ASA21-24-16	24	1.1/2	38	16	1	25	76	36	32
ASA21-24-20	24	1.1/2	38	20	1.1/4	31	76	36	32
ASA21-32-08	32	2	51	8	1/2	12	76	36	26
ASA21-32-12	32	2	51	12	3/4	19	76	36	26
ASA21-32-16	32	2	51	16	1	25	76	36	32
ASA21-32-20	32	2	51	20	1.1/4	31	76	36	32
ASA21-32-24	32	2	51	24	1.1/2	38	80	36	32

All dimensions in mm

# SUPA SEAL FOR STANDARD STAPLE ADAPTORS

SERIES ASA28

STAPLE  
ADAPTORS  
22



PART REF	NOMINAL BORE			D	L
	DASH	INCH	DN		
ASA28-04	4	1/4	6	6.5	2.5
ASA28-06	6	3/8	10	10.4	2.5
ASA28-08	8	1/2	12	13.6	2.9
ASA28-12	12	3/4	19	19.5	2.9
ASA28-16	16	1	25	26.5	2.9
ASA28-20	20	1.1/4	31	33.5	2.9
ASA28-24	24	1.1/2	38	41.5	4.2
ASA28-32	32	2	51	50.5	4.2
ASA28-40*	40	2.1/2	63	73.4	2.9
ASA28-48*	48	3	76	80.4	2.9

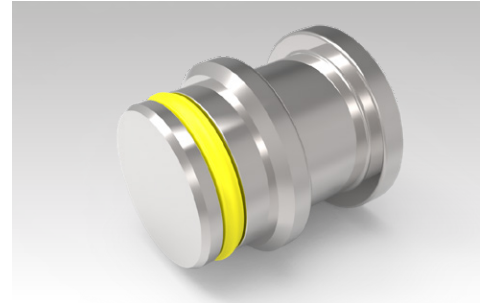
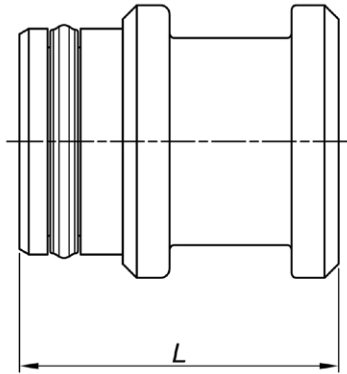
\*On special request only; minimum order quantity will apply

Conventional O-rings and Back-Up rings available on request - Please see pages 69 to 72

All dimensions in mm

# STAPLE MALE END PLUG

## SERIES ASA29



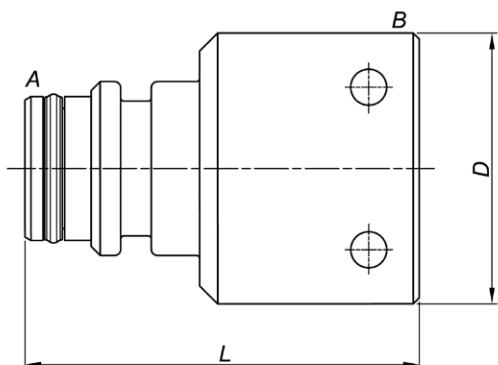
STAPLE ADAPTORS  
23

PART REF	NOMINAL BORE			L
	DASH	INCH	DN	
ASA29-04	4	1/4	6	34
ASA29-06	6	3/8	10	34
ASA29-08	8	1/2	12	34
ASA29-12	12	3/4	19	34
ASA29-16	16	1	25	41
ASA29-20	20	1.1/4	31	41
ASA29-24	24	1.1/2	38	47
ASA29-32	32	2	51	47
ASA29-40	40	2.1/2	63	80
ASA29-48	48	3	76	110

# STRAIGHT STAPLE MALE - FIXED FEMALE ADAPTOR

SERIES ASA31F

STAPLE ADAPTORS 24

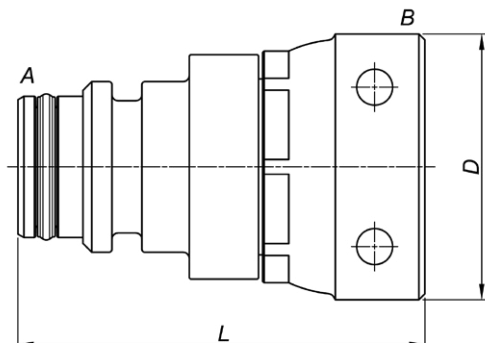


PART REF	NOMINAL BORE						L	D
	SIDE "A"			SIDE "B"				
	DASH	INCH	DN	DASH	INCH	DN		
ASA31F-06-06	6	3/8	10	6	3/8	10	62	32
ASA31F-08-06	8	1/2	12	6	3/8	10	57	32
ASA31F-08-12	8	1/2	12	12	3/4	19	66	45
ASA31F-12-08	12	3/4	19	8	1/2	12	59	35
ASA31F-16-12	16	1	25	12	3/4	19	68	45
ASA31F-20-24	20	1.1/4	31	24	1.1/2	38	85	76
ASA31F-24-24	24	1.1/2	38	24	1.1/2	38	89	76
ASA31F-32-24	32	2	51	24	1.1/2	38	87	76
ASA31F-32-32	32	2	51	32	2	51	91	85

All dimensions in mm

# STRAIGHT STAPLE MALE - SWIVEL FEMALE ADAPTOR

SERIES ASA31



STAPLE ADAPTORS  
25

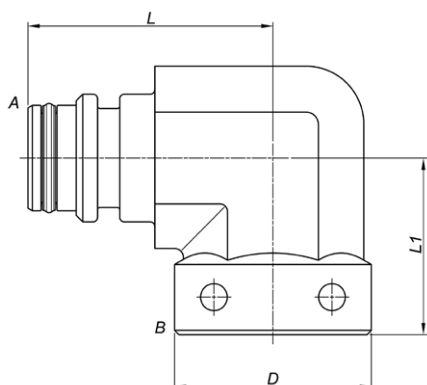
PART REF	NOMINAL BORE						L	D
	SIDE "A"			SIDE "B"				
	DASH	INCH	DN	DASH	INCH	DN		
ASA31-04-04	4	1/4	6	4	1/4	6	69	25
ASA31-04-06	4	1/4	6	6	3/8	10	69	32
ASA31-04-08	4	1/4	6	8	1/2	12	69	35
ASA31-06-04	6	3/8	10	4	1/4	6	69	25
ASA31-06-06	6	3/8	10	6	3/8	10	69	32
ASA31-06-08	6	3/8	10	8	1/2	12	69	35
ASA31-06-12	6	3/8	10	12	3/4	19	69	45
ASA31-08-04	8	1/2	12	4	1/4	6	69	25
ASA31-08-06	8	1/2	12	6	3/8	10	63	32
ASA31-08-08	8	1/2	12	8	1/2	12	64	35
ASA31-08-12	8	1/2	12	12	3/4	19	69	45
ASA31-12-06	12	3/4	19	6	3/8	10	69	32
ASA31-12-08	12	3/4	19	8	1/2	12	69	35
ASA31-12-12	12	3/4	19	12	3/4	19	69	45
ASA31-12-16	12	3/4	19	16	1	25	81	60
ASA31-12-20	12	3/4	19	20	1.1/4	31	83	60
ASA31-16-06	16	1	25	6	3/8	10	76	32
ASA31-16-08	16	1	25	8	1/2	12	76	35
ASA31-16-12	16	1	25	12	3/4	19	76	45
ASA31-16-16	16	1	25	16	1	25	83	60
ASA31-16-20	16	1	25	20	1.1/4	31	83	60
ASA31-20-06	20	1.1/4	31	6	3/8	10	76	32
ASA31-20-08	20	1.1/4	31	8	1/2	12	76	35
ASA31-20-12	20	1.1/4	31	12	3/4	19	79	45
ASA31-20-16	20	1.1/4	31	16	1	25	81	60
ASA31-20-20	20	1.1/4	31	20	1.1/4	31	83	60

All dimensions in mm

# 90° STAPLE MALE - FIXED FEMALE ADAPTOR

SERIES ASA32F

STAPLE ADAPTORS 26



PART REF	NOMINAL BORE						L	L1	D
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASA32F-06-06	6	3/8	10	6	3/8	10	46	32	32
ASA32F-08-08	8	1/2	12	8	1/2	12	51	35	35
ASA32F-12-12	12	3/4	19	12	3/4	19	56	40	45
ASA32F-16-16	16	1	25	16	1	25	66	48	55
ASA32F-20-20	20	1.1/4	31	20	1.1/4	31	68	55	60
*ASA32F-24-24	24	1.1/2	38	24	1.1/2	38	86	67	76
*ASA32F-32-32	32	2	51	32	2	51	96	70	85

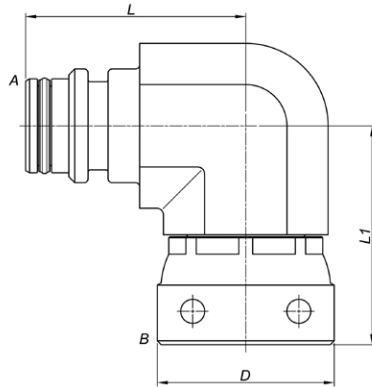
\*Square body

All dimensions in mm



# 90° STAPLE MALE - SWIVEL FEMALE ADAPTOR

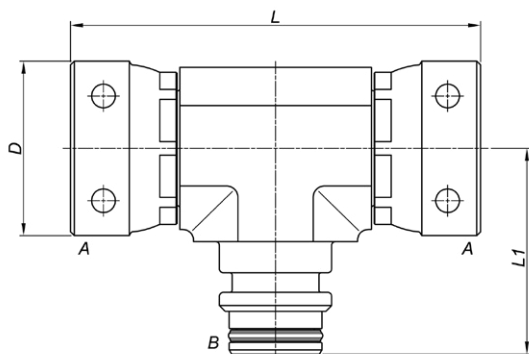
## SERIES ASA32



PART REF	NOMINAL BORE						L	L1	D
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASA32-04-04	4	1/4	6	4	1/4	6	46	44	25
ASA32-06-06	6	3/8	10	6	3/8	10	46	44	32
ASA32-06-08	6	3/8	10	8	1/2	12	51	48	35
ASA32-08-06	8	1/2	12	6	3/8	10	51	48	32
ASA32-08-08	8	1/2	12	8	1/2	12	51	48	35
ASA32-12-12	12	3/4	19	12	3/4	19	56	57	45
ASA32-16-16	16	1	25	16	1	25	66	68	60
ASA32-20-20	20	1.1/4	31	20	1.1/4	31	68	68	60

# STAPLE MALE - T SWIVEL FEMALE ADAPTOR

SERIES ASA33

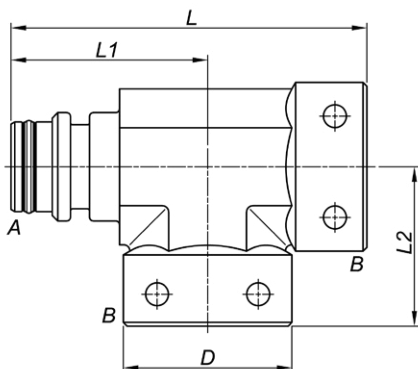


STAPLE ADAPTORS 28

PART REF	NOMINAL BORE						L	L1	D
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASA33-04-04-04	4	1/4	6	4	1/4	6	88	46	25
ASA33-06-06-06	6	3/8	10	6	3/8	10	88	46	32
ASA33-08-08-08	8	1/2	12	8	1/2	12	96	52	35
ASA33-12-12-12	12	3/4	19	12	3/4	19	107	57	45

# STAPLE MALE - L FIXED FEMALE ADAPTOR

SERIES ASA34F



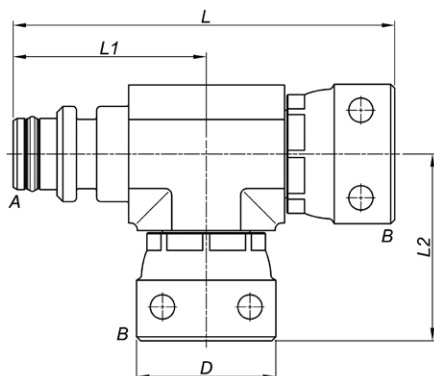
PART REF	NOMINAL BORE						L	L1	L2	D
	SIDE "A"			SIDE "B"						
	DASH	INCH	DN	DASH	INCH	DN				
ASA34F-06-06-06	6	3/8	10	6	3/8	10	85	48	32	32
ASA34F-08-08-08	8	1/2	12	8	1/2	12	93	51	35	35
ASA34F-12-12-12	12	3/4	19	12	3/4	19	96	53	40	45
ASA34F-16-16-16	16	1	25	16	1	25	119	66	48	55
*ASA34F-20-20-20	20	1.1/4	31	20	1.1/4	31	122	68	54	60
*ASA34F-24-24-24	24	1.1/2	38	24	1.1/2	38	153	86	68	76
*ASA34F-32-32-32	32	2	51	32	2	51	166	96	71	85

\*Square body

All dimensions in mm

# 90° STAPLE MALE - L SWIVEL FEMALE ADAPTOR

SERIES ASA34



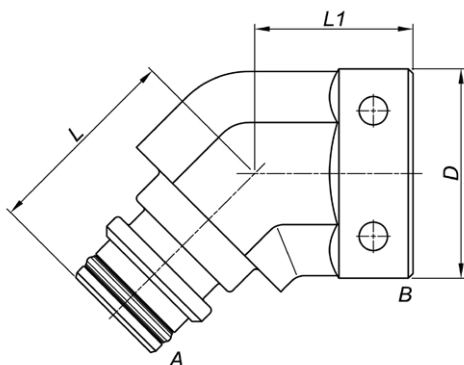
STAPLE ADAPTORS

29

PART REF	NOMINAL BORE						L	L1	L2	D
	SIDE "A"			SIDE "B"						
	DASH	INCH	DN	DASH	INCH	DN				
ASA34-04-04-04	4	1/4	6	4	1/4	6	90	46	44	25
ASA34-06-06-06	6	3/8	10	6	3/8	10	90	46	44	32
ASA34-08-08-08	8	1/2	12	8	1/2	12	100	52	48	35
ASA34-12-12-12	12	3/4	19	12	3/4	19	114	57	57	45
ASA34-16-16-16	16	1	25	16	1	25	139	71	68	60

# 135° STAPLE MALE - FIXED FEMALE ADAPTOR

SERIES ASA35F



PART REF	NOMINAL BORE						L	L1	D
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASA35F-06-06	6	3/8	10	6	3/8	10	39	31	32
ASA35F-08-08	8	1/2	12	8	1/2	12	39	34	35
ASA35F-12-12	12	3/4	19	12	3/4	19	43	34	45
*ASA35F-16-16	16	1	25	16	1	25	51	34	55
*ASA35F-20-20	20	1.1/4	31	20	1.1/4	31	51	35	60
*ASA35F-24-24	24	1.1/2	38	24	1.1/2	38	61	56	76
*ASA35F-32-32	32	2	51	32	2	51	71	58	85

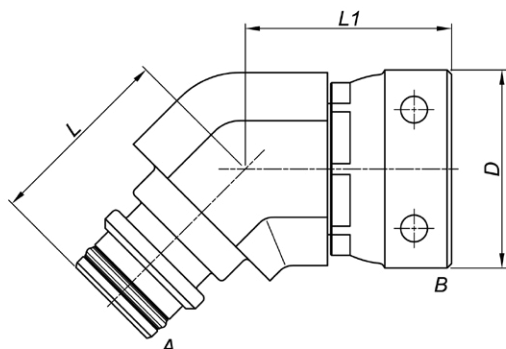
\*Square body

All dimensions in mm

# 135° STAPLE MALE - SWIVEL FEMALE ADAPTOR

SERIES ASA35

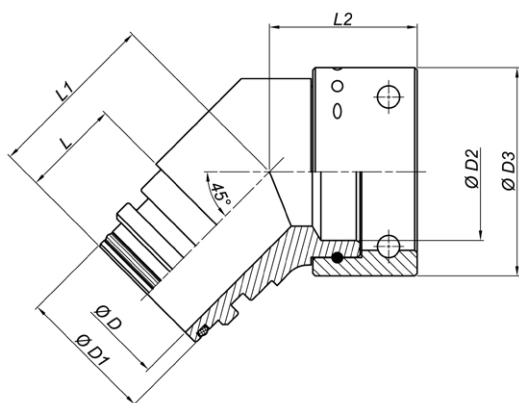
STAPLE ADAPTORS 30



PART REF	NOMINAL BORE						L	L1	D
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASA35-04-04	4	1/4	6	4	1/4	6	40	39	25
ASA35-06-06	6	3/8	10	6	3/8	10	40	39	32
ASA35-08-08	8	1/2	12	8	1/2	12	40	40	35
ASA35-12-12	12	3/4	19	12	3/4	19	43	47	45
ASA35-16-16	16	1	25	16	1	25	52	54	60
ASA35-20-20	20	1.1/4	31	20	1.1/4	31	52	54	60

# 135° STAPLE MALE - SWIVEL FEMALE

SERIES ASA35



PART REF	NOMINAL BORE			L	L1	L2	D	D1	D2	D3
	DASH	INCH	DN							
ASA35-24-24	24	1.1/2	38	40	66.5	59	35	47	47	76
ASA35-32-32	32	2	51	40	70.5	60.5	44	56	56	85

All dimensions in mm



## **ASH Series Staple Adaptors**

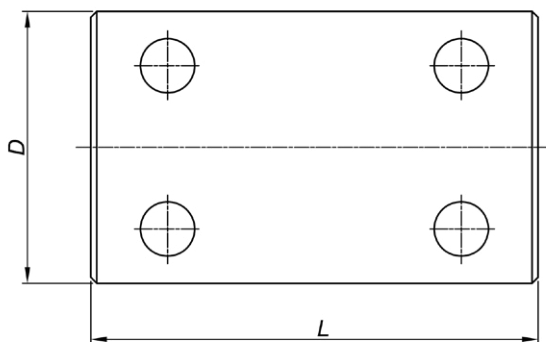
The constant demands of the underground mining industry to increase production output, resulted in the need for large bore, high pressure supply lines. The success of the staple adaptor design was enhanced to provide a range of high-performance staple adaptors to satisfy the pressure requirements.

The ASH series is available in various configurations from sizes DN12 (½") to DN50 (2").



# STRAIGHT STAPLE FEMALE ADAPTOR

SERIES ASH01

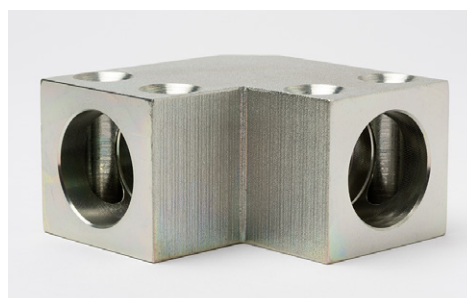
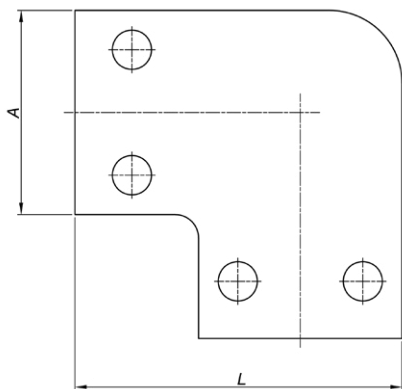


HIGH PRESSURE STAPLE ADAPTORS 32

PART REF	NOMINAL BORE			L	D
	DASH	INCH	DN		
ASH01-12-12	12	3/4	19	74	45
ASH01-16-16	16	1	25	104	60
ASH01-20-20	20	1.1/4	31	106	70
ASH01-24-24	24	1.1/2	38	117	80
ASH01-32-32	32	2	51	117	90

# 90° STAPLE FEMALE ADAPTOR

SERIES ASH02

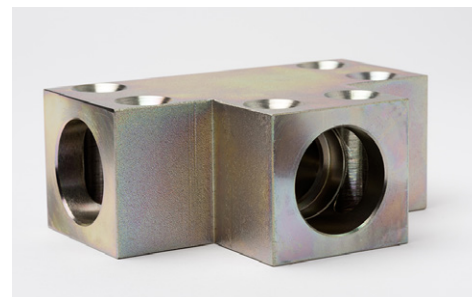
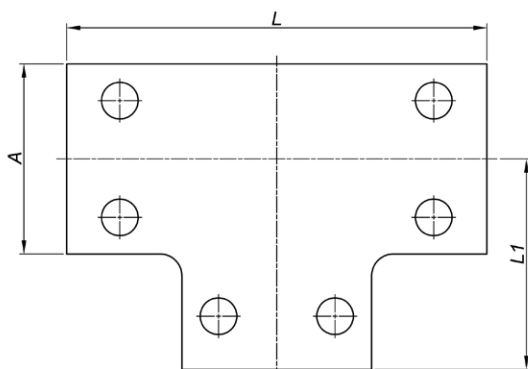


PART REF	NOMINAL BORE			L	A
	DASH	INCH	DN		
ASH02-16-16	16	1	25	101	60
ASH02-20-20	20	1.1/4	31	78	70
ASH02-24-24	24	1.1/2	38	83	80
ASH02-32-32	32	2	51	88	90

All dimensions in mm

# T PIECE STAPLE FEMALE ADAPTOR

SERIES ASH03



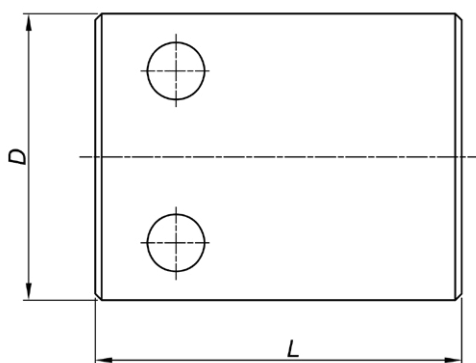
PART REF	NOMINAL BORE			L	L1	A
	DASH	INCH	DN			
ASH03-16-16-16	16	1	25	142	71	60
ASH03-20-20-20	20	1.1/4	31	156	78	70
ASH03-24-24-24	24	1.1/2	38	166	83	80
ASH03-32-32-32	32	2	51	176	88	90

HIGH PRESSURE  
STAPLE ADAPTORS

33

# STAPLE END CAP

SERIES ASH06

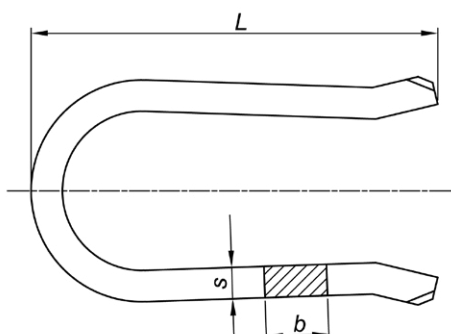


PART REF	NOMINAL BORE			L	D
	DASH	INCH	DN		
ASH06-12	12	3/4	19	70	45
ASH06-16	16	1	25	90	60
ASH06-20	20	1.1/4	31	90	70
ASH06-24	24	1.1/2	38	100	80
ASH06-32	32	2	51	112	90

All dimensions in mm

# STANDARD ASH STAINLESS STAPLE

SERIES ASH08



HIGH PRESSURE STAPLE ADAPTORS 34

PART REF	NOMINAL BORE			s	b	L
	DASH	INCH	DN			
ASH08-12	12	3/4	19	4	8	56
ASH08-16	16	1	25	6	12	78
ASH08-20	20	1.1/4	31	6	12	84
ASH08-24	24	1.1/2	38	6	12	99
*ASH08-24L	24	1.1/2	38	6	12	112
ASH08-32	32	2	51	6	12	105
*ASH08-32L	32	2	51	6	12	129

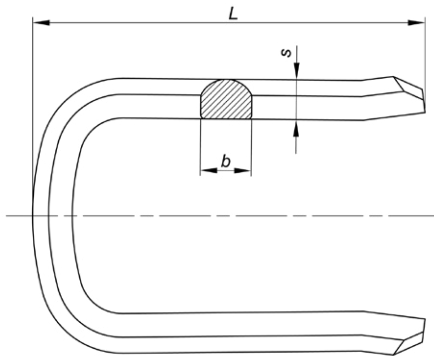
\*Longer length

All dimensions in mm



# ASH 'D' SECTION STAINLESS STAPLE

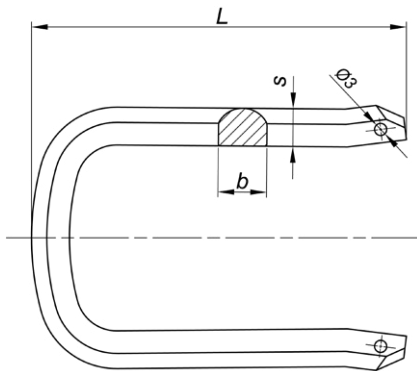
## SERIES ASH08D



PART REF	NOMINAL BORE			s	b	L
	DASH	INCH	DN			
ASH08D-08	08	1/2	12	6.5	8	53
ASH08D-12	12	3/4	19	6.5	8	60
ASH08D-16	16	1	25	9.4	12	75
ASH08D-20	20	1.1/4	31	9.4	12	85
ASH08D-24	24	1.1/2	38	9.4	12	92
ASH08D-32	32	2	51	9.4	12	103

# ASH DRILLED HOLES STAINLESS D STAPLE

## SERIES ASH08D-DH



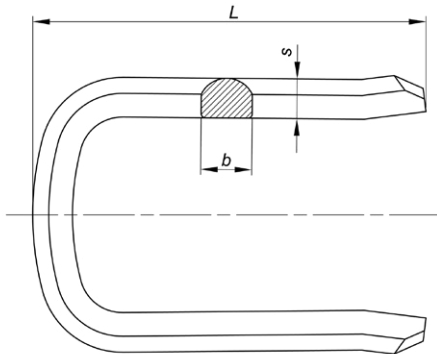
HIGH PRESSURE STAPLE ADAPTORS 36

PART REF	NOMINAL BORE			s	b	L
	DASH	INCH	DN			
ASH08D-08-DH	8	1/2	12	6.5	8	53
ASH08D-12-DH	12	3/4	19	6.5	8	60
ASH08D-12-61-DH	12	3/4	19	6.5	8	61
ASH08D-16-DH	16	1	25	9.4	12	75
ASH08D-16-90-DH	16	1	25	9.4	12	90
ASH08D-16-115-DH	16	1	25	9.4	12	115
ASH08D-20-DH	20	1.1/4	31	9.4	12	85
ASH08D-24-DH	24	1.1/2	38	9.4	12	92
ASH08D-24-100-DH	24	1.1/2	38	9.4	12	100
ASH08D-32-DH	32	2	51	9.4	12	103
ASH08D-32-115-DH	32	2	51	9.4	12	115
ASH08D-32-130-DH	32	2	51	9.4	12	130

All dimensions in mm

# ASH EXTRA LONG STAINLESS D STAPLE

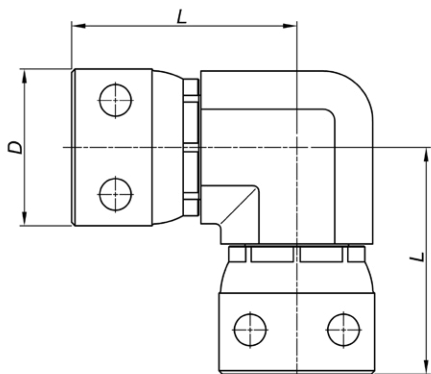
## SERIES ASH08D



PART REF	NOMINAL BORE			s	b	L
	DASH	INCH	DN			
ASH08D-08-83	8	1/2	12	6.5	8	83
ASH08D-08-90	8	1/2	12	6.5	8	90
ASH08D-08-100	8	1/2	12	6.5	8	100
ASH08D-12-65	12	3/4	19	6.5	8	65
ASH08D-12-67	12	3/4	19	6.5	8	67
ASH08D-12-70	12	3/4	19	6.5	8	70
ASH08D-12-81	12	3/4	19	6.5	8	81
ASH08D-12-100	12	3/4	19	6.5	8	100
ASH08D-12-114	12	3/4	19	6.5	8	114
ASH08D-16-88	16	1	25	9.4	12	88
ASH08D-16-92	16	1	25	9.4	12	92
ASH08D-16-95	16	1	25	9.4	12	95
ASH08D-20-100	20	1.1/4	31	9.4	12	100
ASH08D-24-100	24	1.1/2	38	9.4	12	100
ASH08D-24-115	24	1.1/2	38	9.4	12	115
ASH08D-24-118	24	1.1/2	38	9.4	12	118
ASH08D-24-130	24	1.1/2	38	9.4	12	130
ASH08D-24-134	24	1.1/2	38	9.4	12	134

# 90° SWIVEL STAPLE FEMALE ADAPTOR

SERIES ASH12

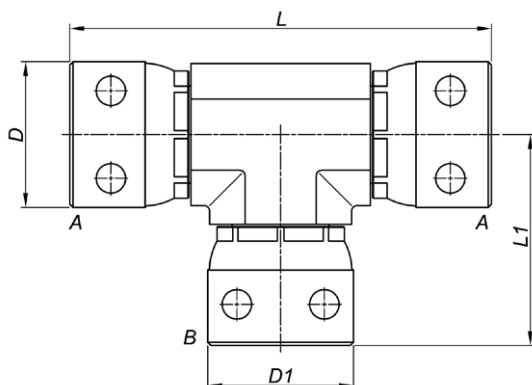


PART REF	NOMINAL BORE			L	D
	DASH	INCH	DN		
ASH12-12-12	12	3/4	19	66	45

HIGH PRESSURE STAPLE ADAPTORS 38

# T SWIVEL STAPLE FEMALE ADAPTOR

SERIES ASH13

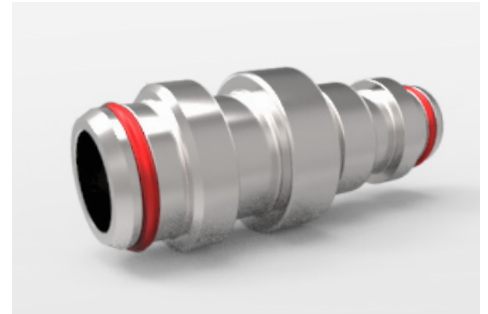
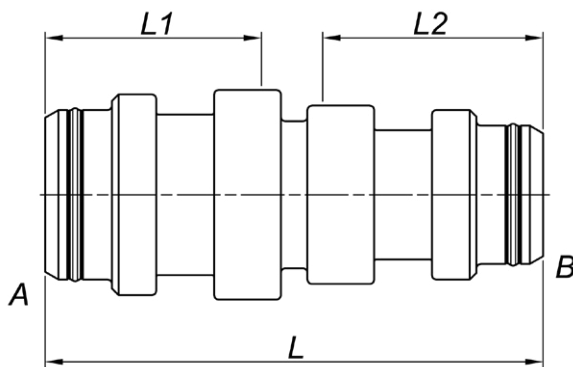


PART REF	NOMINAL BORE						L	L1	D	D1
	SIDE "A"			SIDE "B"						
	DASH	INCH	DN	DASH	INCH	DN				
ASH13-12-12-12	12	3/4	20	12	3/4	19	132	66	45	45
ASH13-12-12-SA08	12	3/4	20	8	1/2	12	132	56	45	35

All dimensions in mm

# STRAIGHT MALE STAPLE ADAPTOR

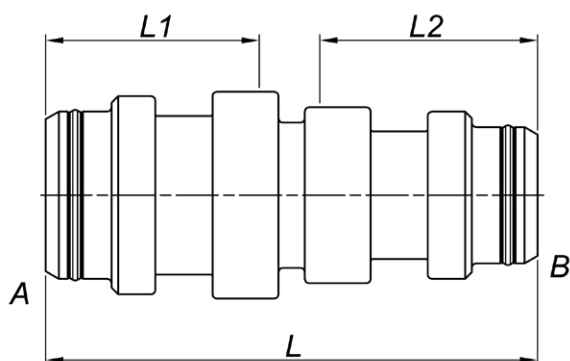
SERIES ASH21



PART REF	NOMINAL BORE						L	L1	L2
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASH21-12-12	12	3/4	20	12	3/4	19	81	36	36
ASH21-16-12	16	1	25	12	3/4	19	91	51	36
ASH21-16-16	16	1	25	16	1	25	110	51	51
ASH21-20-16	20	1.1/4	32	16	1	25	112	52	51
ASH21-20-20	20	1.1/4	32	20	1.1/4	31	110	52	52
ASH21-24-20	24	1.1/2	40	20	1.1/4	31	110	56	52
ASH21-24-24	24	1.1/2	40	24	1.1/2	38	124	56	56
ASH21-32-20	32	2	50	20	1.1/4	31	110	58	52
ASH21-32-24	32	2	50	24	1.1/2	38	124	58	56
ASH21-32-32	32	2	50	32	2	51	124	58	58

# STRAIGHT MALE - STD. STAPLE MALE ADAPTOR

SERIES ASH21-XX-SAXX



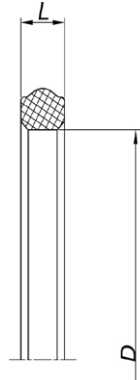
HIGH PRESSURE STAPLE ADAPTORS 40

PART REF	NOMINAL BORE						L	L1	L2
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASH21-12-SA08	12	3/4	19	8	1/2	12	67	36	28
ASH21-12-SA12	12	3/4	19	12	3/4	19	73	36	28
ASH21-16-SA12	16	1	25	12	3/4	19	82	51	28
ASH21-16-SA16	16	1	25	16	1	25	93	51	32
ASH21-20-SA08	20	1.1/4	31	8	1/2	12	82	52	28
ASH21-20-SA12	20	1.1/4	31	12	3/4	21	82	52	28
ASH21-20-SA16	20	1.1/4	31	16	1	25	88	52	32
ASH21-20-SA20	20	1.1/4	31	20	1.1/4	31	94	52	32
ASH21-24-SA12	24	1.1/2	38	12	3/4	19	88	57	28
ASH21-24-SA16	24	1.1/2	38	16	1	25	92	57	32
ASH21-24-SA20	24	1.1/2	38	20	1.1/4	31	92	57	32
ASH21-32-SA12	32	2	51	12	3/4	19	87	57	28
ASH21-32-SA16	32	2	51	16	1	25	92	57	32
ASH21-32-SA20	32	2	51	20	1.1/4	31	92	57	32

All dimensions in mm

# SUPA SEAL FOR HIGH PRESSURE STAPLE ADAPTORS

SERIES ASH28



PART REF	NOMINAL BORE			D	L
	DASH	INCH	DN		
ASH28-08*	8	1/2	12	11.5	2.9
ASH28-12	12	3/4	19	17.5	2.9
ASH28-16	16	1	25	26.5	2.9
ASH28-20	20	1.1/4	31	33.5	2.9
ASH28-24	24	1.1/2	38	38.5	4.2
ASH28-32	32	2	51	44.5	4.2

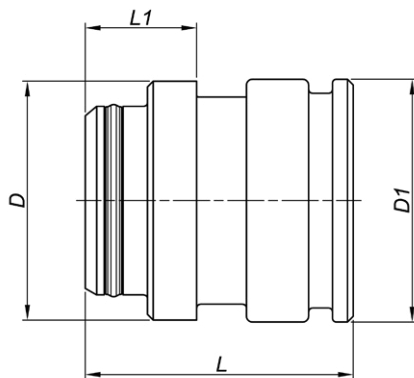
\*On special request only; minimum order quantity will apply

Conventional O-rings and Back-Up rings available on request - Please see pages 69 to 72

HIGH PRESSURE STAPLE ADAPTORS  
41

# STAPLE MALE END PLUG

SERIES ASH29

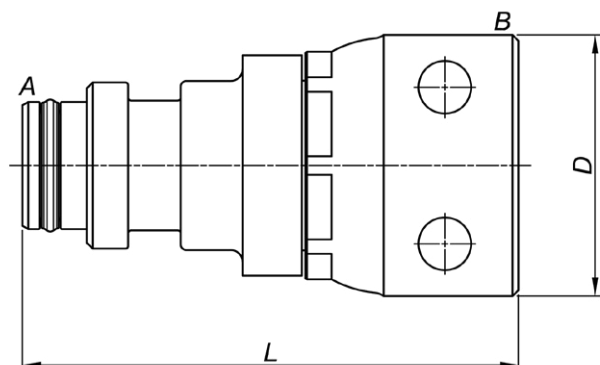


PART REF	NOMINAL BORE			L	L1	D	D1
	DASH	INCH	DN				
ASH29-12	12	3/4	19	45	18	29	29
ASH29-16	16	1	25	61	26	39	39
ASH29-20	20	1.1/4	31	64	26	46	47
ASH29-24	24	1.1/2	38	71	30	55	55
ASH29-32	32	2	51	71	30	64	65
ASH29-40	40	2.1/2	63	85	37	78	79

All dimensions in mm

# STRAIGHT STAPLE MALE - FEMALE ADAPTOR

SERIES ASH31



HIGH PRESSURE STAPLE ADAPTORS 42

PART REF	NOMINAL BORE						L	D
	SIDE "A"			SIDE "B"				
	DASH	INCH	DN	DASH	INCH	DN		
ASH31-16-12	16	1	25	12	3/4	19	84	45
ASH31-20-12	20	1.1/4	31	12	3/4	19	85	45
ASH31-20-16	20	1.1/4	31	16	1	25	110	60
ASH31-24-12	24	1.1/2	38	12	3/4	19	84	45
ASH31-24-16	24	1.1/2	38	16	1	25	100	60
ASH31F-24-20	24	1.1/2	38	20	1.1/4	31	100	70
ASH31-32-12	32	2	51	12	3/4	19	80	45
ASH31-32-16	32	2	51	16	1	25	95	60
ASH31F-32-20	32	2	51	20	1.1/4	32	95	70
ASH31F-32-24	32	2	51	24	1.1/2	38	108	80

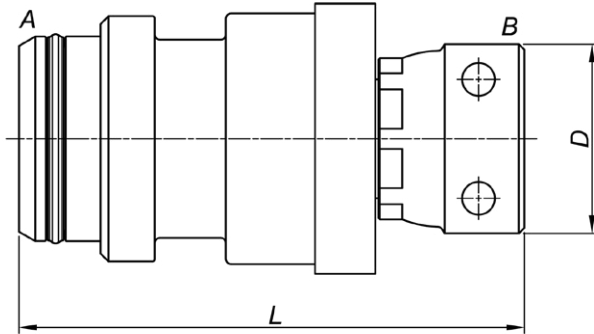
"F" -Fixed Design

All dimensions in mm



# STRAIGHT STAPLE MALE - STD SWIVEL FEMALE ADAPTOR

SERIES ASH31-XX-SAXX



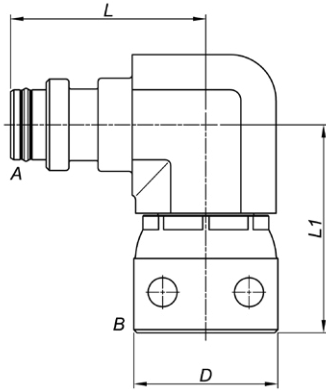
PART REF	NOMINAL BORE						L	D
	SIDE "A"			SIDE "B"				
	DASH	INCH	DN	DASH	INCH	DN		
ASH31-12-SA08	12	3/4	19	8	1/2	12	82	35
ASH31-12-SA12	12	3/4	19	12	3/4	19	77	45
ASH31-16-SA12	16	1	25	12	3/4	19	82	45
ASH31-16-SA16	16	1	25	16	1	25	99	60
ASH31-20-SA08	20	1.1/4	31	8	1/2	12	82	35
ASH31-20-SA12	20	1.1/4	31	12	3/4	19	97	45
ASH31-20-SA16	20	1.1/4	31	16	1	25	103	60
ASH31-20-SA20	20	1.1/4	31	20	1.1/4	31	101	60
ASH31-24-SA16	24	1.1/2	38	16	1	25	95	60
ASH31-24-SA20	24	1.1/2	38	20	1.1/4	31	108	60
ASH31-32-SA16	32	2	51	16	1	25	111	60
ASH31-32-SA20	32	2	51	20	1.1/4	31	92	60

Maximum working pressure for these fittings is limited to the lower performance staple end.

All dimensions in mm

# 90° STAPLE MALE - SWIVEL FEMALE ADAPTOR

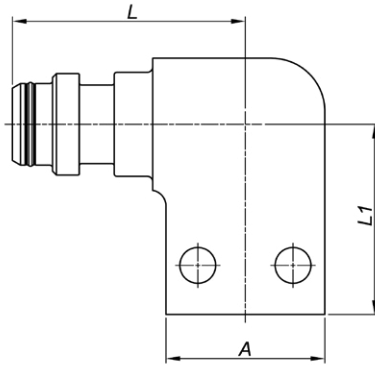
SERIES ASH32



PART REF	NOMINAL BORE						L	L1	D
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASH32-12-12	12	3/4	20	12	3/4	19	61	65	45

# 90° STAPLE MALE - FIXED FEMALE ADAPTOR

SERIES ASH32F

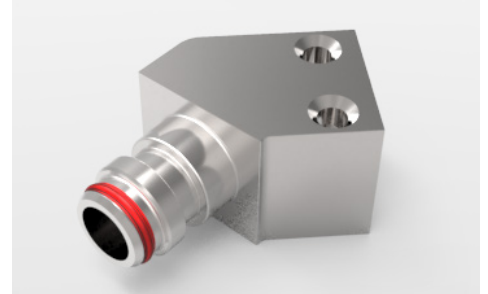
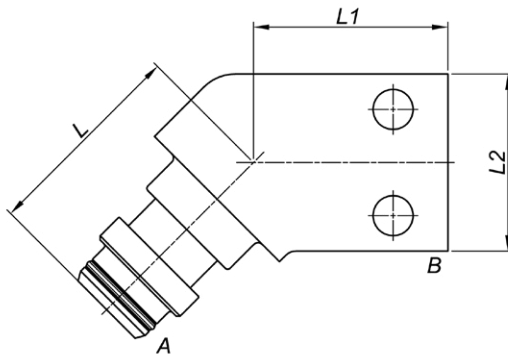


PART REF	NOMINAL BORE			L	L1	A
	DASH	INCH	DN			
ASH32F-12-12	12	3/4	19	61	66	45
ASH32F-16-16	16	1	25	83	85	60
ASH32F-20-20	20	1.1/4	31	101	78	70
ASH32F-24-24	24	1.1/2	38	114	83	82
ASH32F-32-32	32	2	51	114	90	90

All dimensions in mm

# 135° STAPLE MALE - FIXED FEMALE ADAPTOR

SERIES ASH35F

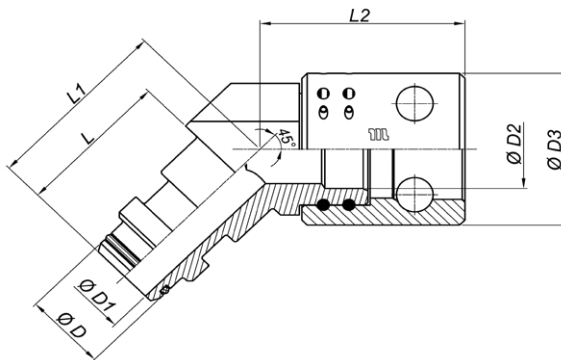


PART REF	NOMINAL BORE						L	L1	L2
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASH35F-20-20	20	1.1/4	31	20	1.1/4	31	70	64	70
ASH35F-24-24	24	1.1/2	38	24	1.1/2	38	78	64	80
ASH35F-32-32	32	2	51	32	2	51	98	76	90

HIGH PRESSURE STAPLE ADAPTORS 45

# 135° STAPLE MALE - SWIVEL FEMALE

SERIES ASH35

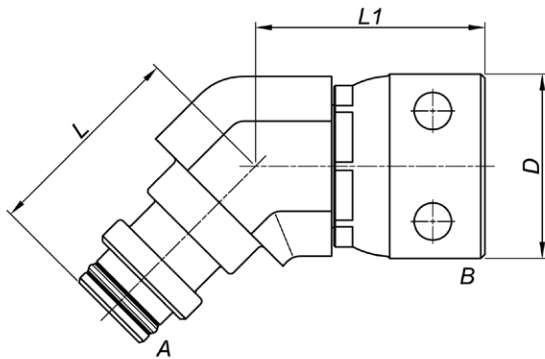


PART REF	NOMINAL BORE			L	L1	L2	D	D1	D2	D3
	DASH	INCH	DN							
ASH35-16-16	16	1	25	58	71	76	31	22	31	60
ASH35-20-20	20	1.1/4	31	58	76.5	75	38	27	38	70
ASH35-24-24	24	1.1/2	38	64	88	81	44	32	44	80
ASH35-32-32	32	2	51	64	88	88	50	38	50	95

All dimensions in mm

# 135° STAPLE MALE - SWIVEL FEMALE ADAPTOR

SERIES ASH35



PART REF	NOMINAL BORE						L	L1	D
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASH35-12-12	12	3/4	19	12	3/4	19	51	57	45

HIGH PRESSURE  
STAPLE ADAPTORS

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All dimensions in mm



**ASAF / ASHF Series Adaptors**

**FLUSHFIT**

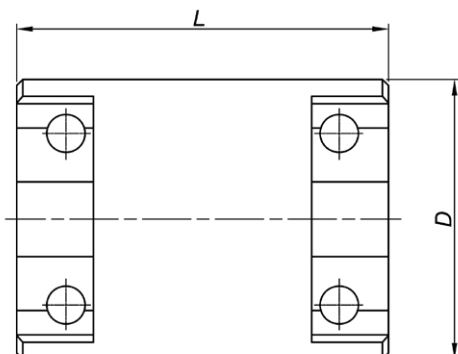
Advancements in underground mining technology lead to the introduction of new production methods which resulted in the need for a FlushFit staple adaptor.

The ASAF / ASHF series of staple adaptor allows the installation of hydraulic hoses side by side or coiled without the risk of damage during movement.



# FLUSHFIT FEMALE ADAPTOR

SERIES ASAF01 AND ASAFP01



PART REF	NOMINAL BORE			L	D
	DASH	INCH	DN		
ASAF01-24-24	24	1.1/2	40	92	70
ASAF01-32-32	32	2	50	78	76
ASAF01-40-40	40	2.1/2	63	106	106

PART REF	NOMINAL BORE			L	D
	DASH	INCH	DN		
ASAFP01-48-48	48	3	76	136	112
*ASAFPX01-48-48	48	3	76	145	115
ASAFP01-56-56	56	3.1/2	89	155	132
ASAFP01-64-64	64	4	102	145	140

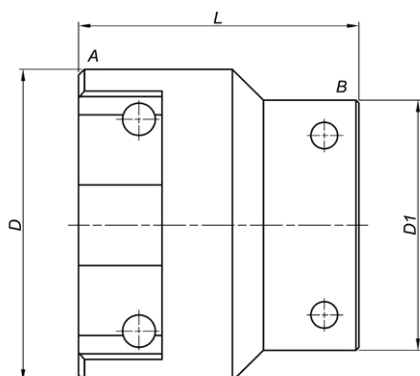
\* ASAFPX01 => Flushfit Plus Extra for WP = 140 bar

FLUSHFIT STAPLE ADAPTORS 48

All dimensions in mm

# FLUSHFIT FEMALE/STANDARD FEMALE

## SERIES ASAF01-SA AND ASAFP01-SA



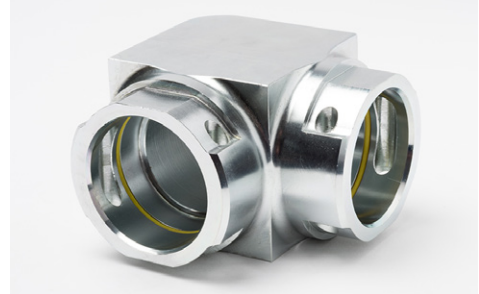
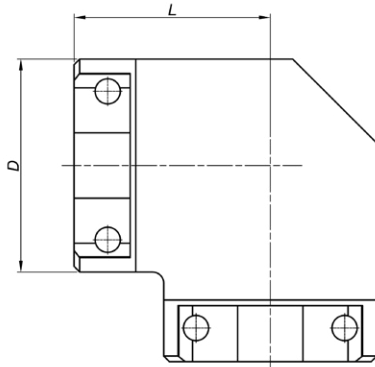
PART REF	NOMINAL BORE						L	D	D1
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASAF01-24-SA24	24	1.1/2	38	24	1.1/2	38	84	76	76
ASAF01-32-SA24	32	2	51	24	1.1/2	38	78	76	76
ASAF01-32-SA32	32	2	51	32	2	51	80	76	85
ASAF01-40-SA32	40	2.1/2	63	32	2	51	94	106	85
ASAF01-40-SA40	40	2.1/2	63	40	2.1/2	63	122	106	106

PART REF	NOMINAL BORE						L	D	D1
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
*ASAFPX01-40-SA40	40	2.1/2	63	40	2.1/2	63	122	106	106
ASAFP01-48-SA32	48	3	76	32	2	51	117	112	85

\*ASAFPX01 => Flushfit Plus Extra for WP = 140 bar

# 90° FLUSHFIT FEMALE ADAPTOR

## SERIES ASAF02



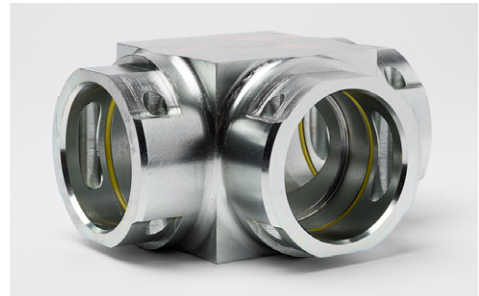
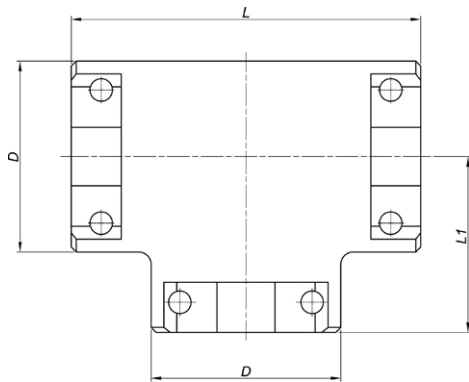
PART REF	NOMINAL BORE			L	D
	DASH	INCH	DN		
ASAF02-32-32	32	2	51	70	76
ASAF02-40-40	40	2.1/2	63	95	106

FLUSHFIT STAPLE ADAPTORS

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# T PIECE FLUSHFIT FEMALE ADAPTOR

## SERIES ASAF03



PART REF	NOMINAL BORE			L	L1	D
	DASH	INCH	DN			
*ASAF03-24-24-24	24	1.1/2	38	154	101	70
ASAF03-32-32-32	32	2	51	170	125	76
**ASAF03-40-40-40	40	2.1/2	63	200	132	106

\* Seal Fitted to Male End

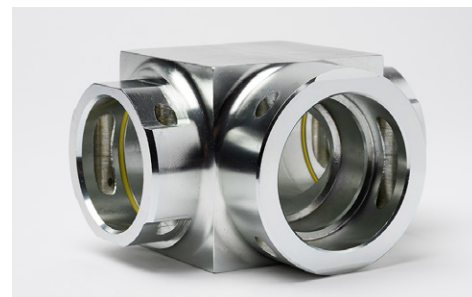
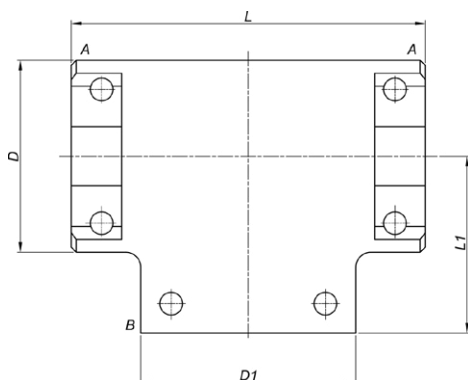
\*\* Welded design

All dimensions in mm



# T PIECE FLUSHFIT - STANDARD FEMALE ADAPTOR

SERIES ASAF03-SA

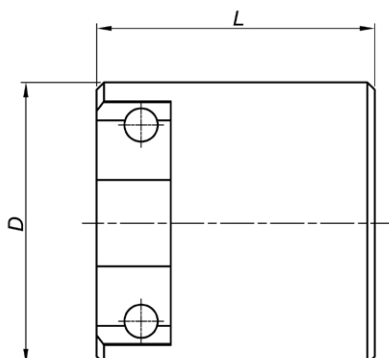


PART REF	NOMINAL BORE						L	L1	D	D1
	SIDE "A"			SIDE "B"						
	DASH	INCH	DN	DASH	INCH	DN				
*ASAF03-24-24-SA24	24	1.1/2	38	24	1.1/2	41	154	99	70	76
ASAF03-32-32-SA32	32	2	51	32	2	51	185	90	76	85
ASAF03-40-40-SA32	40	2.1/2	63	32	2	51	185	90	106	85

\* Seal Fitted to Male End

# FLUSHFIT END CAP

## SERIES ASAF06 AND ASAFP06



PART REF	NOMINAL BORE			L	D
	DASH	INCH	DN		
ASAF06-16	16	1	25	60	60
ASAF06-24	24	1.1/2	38	72	70
ASAF06-32	32	2	51	75	76
ASAF06-40	40	2.1/2	63	85	106

PART REF	NOMINAL BORE			L	D
	DASH	INCH	DN		
ASAFP06-48	48	3	76	104	112
*ASAFPX06-48	48	3	76	109	115
ASAFP06-56	56	3.1/2	89	115	132
ASAFP06-64	64	4	102	109	140

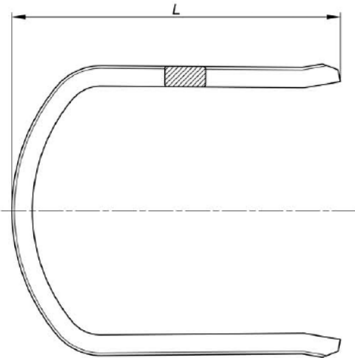
\* ASAFPX06 => Flushfit Plus Extra for WP = 140 bar

FLUSHFIT STAPLE ADAPTORS 52

All dimensions in mm

# FLUSHFIT STAINLESS STAPLE

## SERIES ASAF08 AND ASAFP08



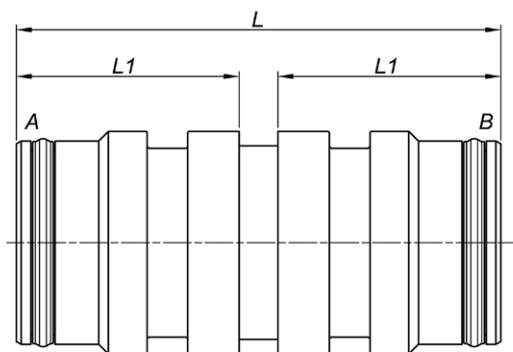
PART REF	NOMINAL BORE			SECTION	L
	DASH	INCH	DN		
ASAF08-16	16	1	25	8 x 5	55
ASAF08-24	24	1.1/2	38	8 x 4	59
ASAF08-32	32	2	51	8 x 4	67
ASAF08-40	40	2.1/2	63	8 x 5	85

PART REF	NOMINAL BORE			SECTION	L
	DASH	INCH	DN		
ASAFP08D-48	48	3	76	"D" 6.6 x 6.5	93
*ASAFPX08-48	48	3	76	12 x 6	96
*ASAFPX08-56	56	3.1/2	89	12 x 6	108

\* ASAFPX => Flushfit Plus Extra for W.P = 140 bar

# FLUSHFIT MALE - MALE ADAPTOR

## SERIES ASAF21 AND ASAFP21



PART REF	NOMINAL BORE						L	L1
	SIDE "A"			SIDE "B"				
	DASH	INCH	DN	DASH	INCH	DN		
ASAF21-16-16	16	1	25	16	1	25	82	38
ASAF21-24-24	24	1.1/2	38	24	1.1/2	38	100	46
*ASAF21-32-32	32	2	51	32	2	51	89	37
*ASAF21-40-40	40	2.1/2	63	40	2.1/2	63	112	51

\*Internal sealing

PART REF	NOMINAL BORE						L	L1
	SIDE "A"			SIDE "B"				
	DASH	INCH	DN	DASH	INCH	DN		
ASAFP21-48-48	48	3	76	48	3	76	160	75
*ASAFPX21-48-48	48	3	76	48	3	76	156	74
ASAFP21-56-56	56	3.1/2	89	56	3.1/2	89	164	78
ASAFP21-64-64	64	4	102	64	4	102	156	74

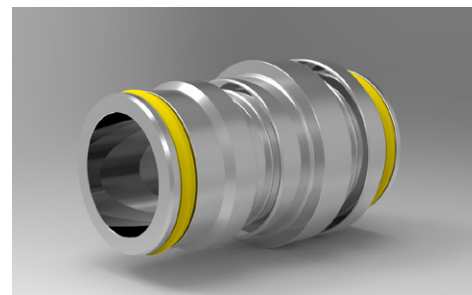
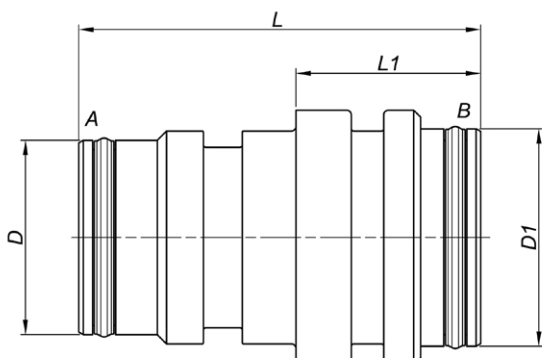
\* Flushfit Plus Extra for WP = 140 bar

FLUSHFIT STAPLE ADAPTORS 54

All dimensions in mm

# FLUSHFIT MALE - STANDARD MALE ADAPTOR

SERIES ASAF21-SA AND ASAFP21-SA



PART REF	NOMINAL BORE						L	L1	D	D1
	SIDE "A"			SIDE "B"						
	DASH	INCH	DN	DASH	INCH	DN				
ASAF21-24-SA24	24	1.1/2	38	24	1.1/2	38	87	40	42	47
*ASAF21-32-SA32	32	2	51	32	2	51	82	40	56	56
*ASAF21-40-SA32	40	2.1/2	63	32	2	51	91	40	76	56
*ASAF21-40-SA40	40	2.1/2	63	40	2.1/2	63	146	73	76	79

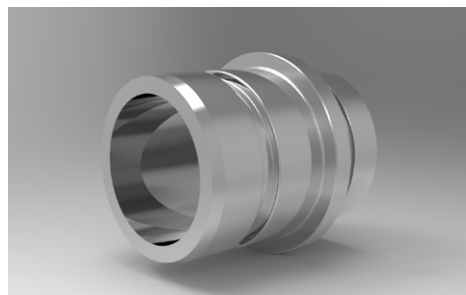
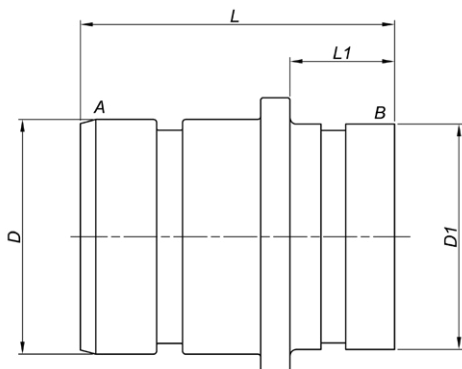
\* Internal sealing on ASAF end ("A")

PART REF	NOMINAL BORE						L	L1	D	D1
	SIDE "A"			SIDE "B"						
	DASH	INCH	DN	DASH	INCH	DN				
ASAFP21-48-SA32	48	3	76	32	2	51	125	41	79	56
*ASAFPX21-48-SA32	40	2.1/2	63	32	2	51	118	44	79	56
*ASAFPX21-48-SA40	48	3	76	40	2.1/2	63	149	67	79	79

\* Flushfit Plus Extra for WP = 140 bar

# FLUSHFIT MALE - VICTAULIC

## SERIES ASAF21-XX-VIC

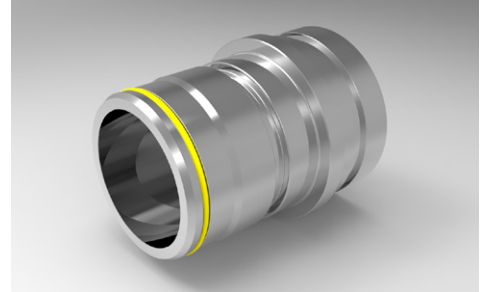
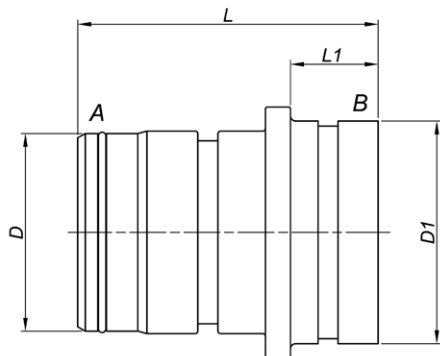


PART REF	NOMINAL BORE						L	L1	D	D1
	SIDE 'A'			SIDE 'B'						
	DASH	INCH	DN	DASH	INCH	DN				
*ASAF21-40-VIC40	40	2.1/2	63	40	2.1/2	63	102	34	76	73
*ASAF21-40-VIC48	40	2.1/2	63	48	3	76	103.5	35	76	89

\* Internal sealing on ASAF end ("A")

# FLUSHFIT PLUS MALE - VICTAULIC

## SERIES ASAFP21-XX-VIC



PART REF	NOMINAL BORE						L	L1	D	D1
	SIDE 'A'			SIDE 'B'						
	DASH	INCH	DN	DASH	INCH	DN				
ASAFP21-48-VIC48	48	3	76	48	3	76	120	35	81	89
ASAFP21-56-VIC48	56	3.1/2	89	48	3	76	114	31.5	86	89

All dimensions in mm

# SUPA SEAL FOR FLUSHFIT STAPLE ADAPTORS

SERIES ASAF28



PART REF	NOMINAL BORE			D	L
	DASH	INCH	DN		
ASAF28-16	16	1	25	26.5	2.9
*ASAF28-24	24	1.1/2	38	37.5	4.2
**ASAF28-32	32	2	51	59.6	2.2
**ASAF28-40	40	2.1/2	63	81.3	3.1
*ASAF28-48	48	3	76	73.4	2.9
*ASAF28-56	56	3.1/2	89	80.4	2.9

\* On special request only; minimum order quantity will apply

\*\* Inverted profile for inner sealing application => D = outside diameter

Conventional O-rings and Back-Up rings available on request - Please see pages 69 to 72

FLUSHFIT STAPLE  
ADAPTORS

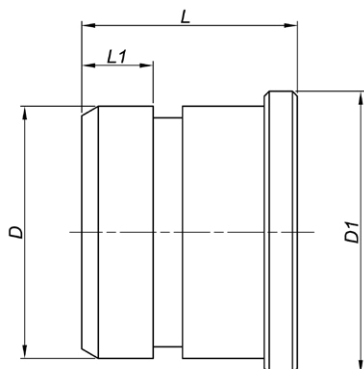
58

All dimensions in mm



# FLUSHFIT STAPLE MALE END PLUG

## SERIES ASAF29 AND ASAFP29



PART REF	NOMINAL BORE			L	L1	D	D1
	DASH	INCH	DN				
ASAF29-16	16	1	25	44	19	31	34.5
ASAF29-24	24	1.1/2	38	58	27	42	46
*ASAF29-32	32	2	51	48	19.5	56	65
*ASAF29-40	40	2.1/2	63	67	25	76	85

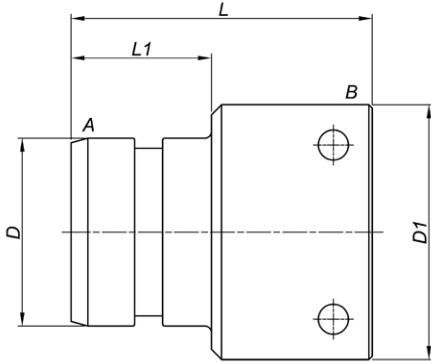
\* Internal Sealing

PART REF	NOMINAL BORE			L	L1	D	D1
	DASH	INCH	DN				
ASAFP29-48	48	3	76	89	48	79	81
*ASAFPX29-48	48	3	76	92	43.6	79	95
ASAFP29-56	56	3.1/2	89	100	47.5	86	110
ASAFP29-64	64	4	102	103	45.5	101	125

\* Flushfit Plus Extra for WP = 140 bar

# FLUSHFIT MALE - STANDARD FIXED FEMALE ADAPTOR

SERIES ASAF31F-XX-SA

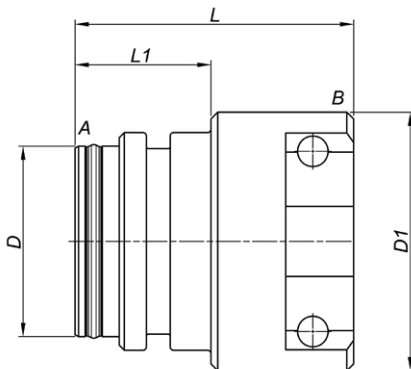


PART REF	NOMINAL BORE						L	L1	D	D1
	SIDE "A"			SIDE "B"						
	DASH	INCH	DN	DASH	INCH	DN				
*ASAF31F-24-SA24	24	1.1/2	38	24	1.1/2	38	101	52	42	76
ASAF31F-32-SA32	32	2	51	32	2	51	89	37	56	85
ASAF31F-40-SA32	40	2.1/2	63	32	2	51	100	56	76	85
ASAF31F-40-SA40	40	2.1/2	63	40	2.1/2	63	134	56	76	106

\* Seal Fitted to Male End

# STANDARD MALE - FLUSHFIT FIXED FEMALE ADAPTOR

SERIES ASAF31F-SA-XX

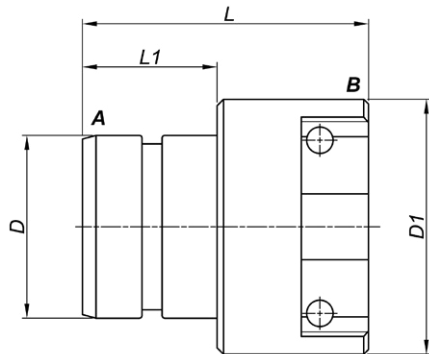


PART REF	NOMINAL BORE						L	L1	D	D1
	SIDE "A"			SIDE "B"						
	DASH	INCH	DN	DASH	INCH	DN				
ASAF31F-SA24-24	24	1.1/2	38	32	1.1/2	38	94	40	47	70
ASAF31F-SA32-32	32	2	51	32	2	51	82	40	56	76
ASAF31F-SA32-40	32	2	51	40	2.1/2	63	101	40	56	106
ASAF31F-SA40-40	40	2.1/2	63	40	2.1/2	63	134	73	79	106

All dimensions in mm

# FLUSHIT MALE - FIXED FEMALE ADAPTOR

SERIES ASAF31F-XX-XX

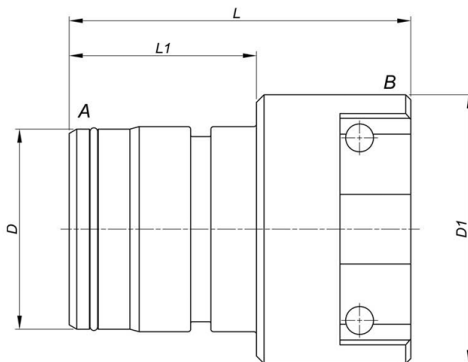


PART REF	NOMINAL BORE						L	L1	D	D1
	SIDE "A"			SIDE "B"						
	DASH	INCH	DN	DASH	INCH	DN				
*ASAF31F-24-32	24	1.1/2	38	32	2	51	96	47	42	76
ASAF31F-32-40	32	2	51	40	2.1/2	63	98	37	56	106
ASAF31F-40-32	40	2.1/2	63	32	2	51	96	56	76	76
ASAF31F-40-40	40	2.1/2	63	40	2.1/2	63	118	56	76	106

\* Seal Fitted to Male End

# FLUSHIT MALE - FEMALE

SERIES ASAFP31

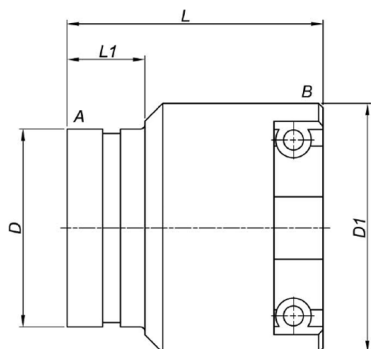


PART REF	NOMINAL BORE						L	L1	D	D1
	SIDE "A"			SIDE "B"						
	DASH	INCH	DN	DASH	INCH	DN				
ASAFP31-SA32-48	32	2	51	48	3	76	121	41	56	112
ASAFP31-SAF32-48	32	2	51	48	3	76	124	42	56	112
ASAFP31-48-SA12	48	3	76	12	3/4	19	114	81	79	45
ASAFP31-48-SAF40	48	3	76	40	2.1/2	63	135	74	79	106
ASAFP31-48-48	48	3	76	48	3	76	154	74	79	112

All dimensions in mm

# VICTAULIC FLUSHFIT FEMALE

## SERIES ASAF31-VIC-XX AND ASAFP31-VIC-XX



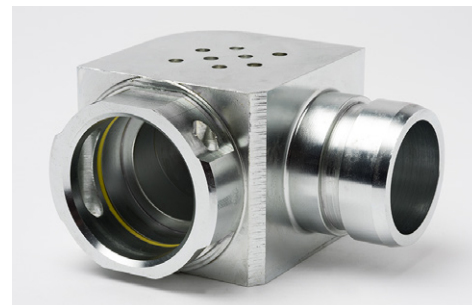
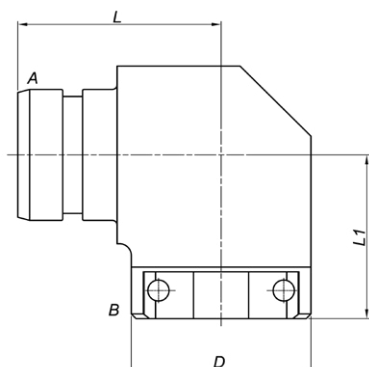
PART REF	NOMINAL BORE						L	L1	D	D1
	SIDE "A"			SIDE "B"						
	DASH	INCH	DN	DASH	INCH	DN				
ASAF31-VIC40-40	40	2.1/2	63	40	2.1/2	63	97	34	73	106

PART REF	NOMINAL BORE						L	L1	D	D1
	SIDE "A"			SIDE "B"						
	DASH	INCH	DN	DASH	INCH	DN				
*ASAFP31-VIC48-48	48	3	76	48	3	76	115	35	89	112
*ASAFP31-VIC48-56	48	3	76	56	3.1/2	89	123	35	89	132

\* Flushfit Plus for WP = 105 Bar

# 90° FLUSHFIT MALE - FEMALE

SERIES ASAF32 AND ASAFP32

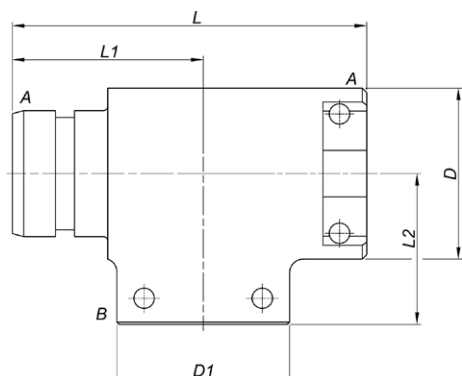


PART REF	NOMINAL BORE						L	L1	D
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASAF32-32-32	32	2	51	32	2	51	96	70	76
ASAF32-40-40	40	2.1/2	63	40	2.1/2	63	109	91	106

PART REF	NOMINAL BORE						L	L1	D
	SIDE "A"			SIDE "B"					
	DASH	INCH	DN	DASH	INCH	DN			
ASAFP32-48-48	48	3	76	48	3	76	136	105	112

# FLUSHFIT MALE - FEMALE - SA FEMALE

SERIES ASAF34-XX-XX-SA AND ASAFP34-XX-XX-SA



PART REF	NOMINAL BORE						L	L1	L2	D	D1
	SIDE 'A'			SIDE 'B'							
	DASH	INCH	DN	DASH	INCH	DN					
ASAF34-32-32-SA24	32	2	51	24	1.1/2	38	156	84	112	76	76
ASAF34-40-40-SA24	40	2.1/2	63	24	1.1/2	38	231	118.5	117	106	76
ASAF34-40-40-SA32	40	2.1/2	63	32	2	51	231	118.5	115	106	85

PART REF	NOMINAL BORE						L	L1	L2	D	D1
	SIDE 'A'			SIDE 'B'							
	DASH	INCH	DN	DASH	INCH	DN					
ASAFP34-48-48-SA32	48	3	76	32	2	50	251	131	119	112	85

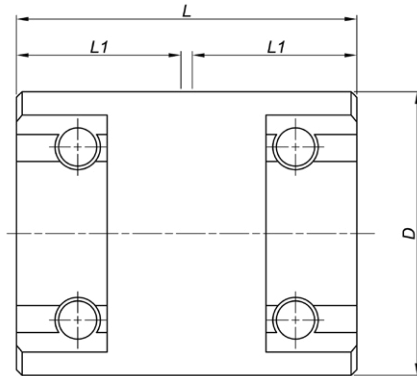
FLUSHFIT STAPLE ADAPTORS

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All dimensions in mm

# STRAIGHT FEMALE HIGH PERFORMANCE FLUSHFIT ADAPTOR

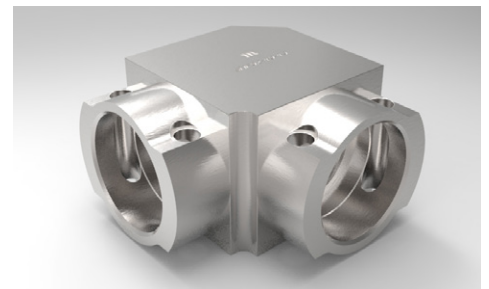
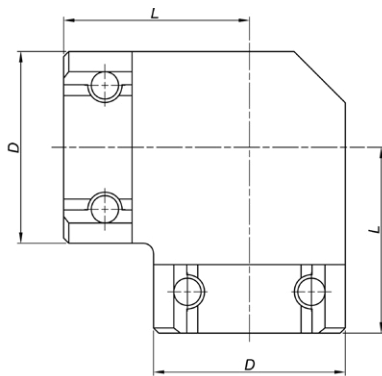
SERIES ASHF01



PART REF	NOMINAL BORE			L	L1	D
	DASH	INCH	DN			
ASHF01-24-24	24	1.1/2	38	120	58	89
ASHF01-32-32	32	2	51	120	41	100
ASHF01-40-40	40	2.1/2	65	141	48	110

# 90° ASH FLUSHFIT FEMALE

SERIES ASHF02



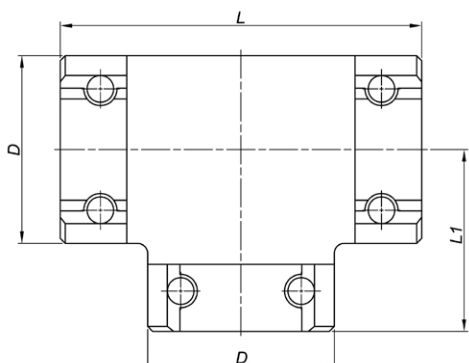
PART REF	NOMINAL BORE			L	D
	DASH	INCH	DN		
ASHF02-40-40	40	2.1/2	63	108.5	112
ASHF02-48-48	48	3	76	125	146

All dimensions in mm



# T - HIGH PERFORMANCE FLUSHFIT FEMALE

SERIES ASHF03



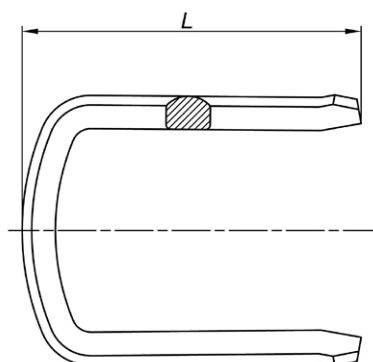
PART REF	NOMINAL BORE			L	L1	D
	DASH	INCH	DN			
ASHF03-40-40-40	40	2.1/2	63	217	108.5	112
ASHF03-48-48-48	48	3	76	250	125	146

FLUSHFIT STAPLE ADAPTORS

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# HIGH PERFORMANCE FLUSHFIT STAINLESS D STAPLE

SERIES ASHF08D

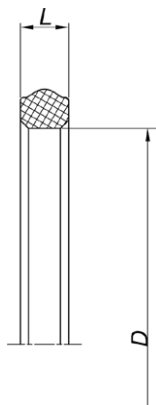


PART REF	NOMINAL BORE			SECTION	L
	DASH	INCH	DN		
ASHF08D-24	24	1.1/2	38	12 x 9.4	78
ASHF08D-32	32	2	51	12 x 9.4	86
ASHF08D-40	40	2.1/2	63	14 x 10.5	107
ASHF08D-48	48	3	76	16 x 12.4	126

All dimensions in mm

# SUPA SEAL FOR HIGH PRESSURE FLUSHFIT STAPLE ADAPTORS

SERIES ASHF28 (ALSO COMPATIBLE WITH SLH28)

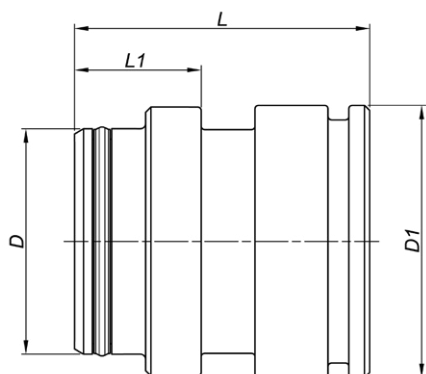


PART REF	NOMINAL BORE			D	L
	DASH	INCH	DN		
ASHF28-24	-24	1.1/2	38	38.5	4.2
ASHF28-32	-32	2	51	44.5	4.2
ASHF28-40	-40	2.1/2	63	58.5	4.6
ASHF28-48	-48	3	76	70.5	4.6

Conventional O-rings and Back-Up rings available on request - Please see pages 69 to 72

# HIGH PERFORMANCE FLUSHFIT STAPLE MALE END PLUG

SERIES ASHF29

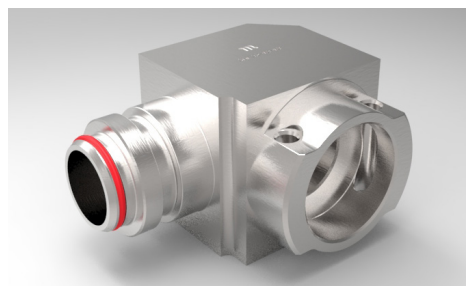
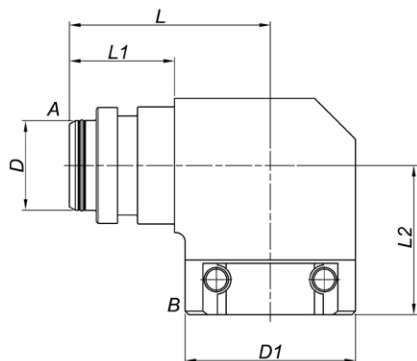


PART REF	NOMINAL BORE			L	L1	D	D1
	DASH	INCH	DN				
ASHF29-24	24	1.1/2	38	71	30	44	55
ASHF29-32	32	2	51	71	32	50	64
ASHF29-40	40	2.1/2	65	85	37	65	78
ASHF29-48	48	3	76	105	41	77	115

All dimensions in mm

# 90° HIGH PERFORMANCE FLUSHFIT MALE - FEMALE

SERIES ASHF32



PART REF	NOMINAL BORE						L	L1	L2	D	D1
	SIDE A			SIDE B							
	DASH	INCH	DN	DASH	INCH	DN					
ASHF32-40-40	40	2.1/2	63	40	2.1/2	63	147	79	108	65	112
ASHF32-48-48	48	3	76	48	3	76	174	92	128	77	146

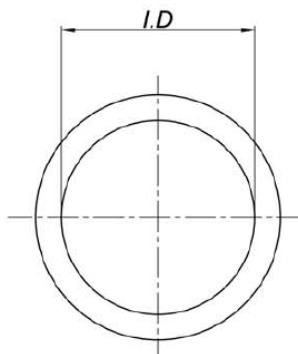
FLUSHFIT STAPLE ADAPTORS

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All dimensions in mm

# STAPLE MALE END - O-RING

SERIES ASA18 - ASAF18



Material: Nitrile Rubber

PART REF	NOMINAL BORE			I.D.	d
	DASH	INCH	DN		
ASA18-04	-4	1/4	6	6	2
ASA18-06	-6	3/8	10	10	2
ASA18-08	-8	1/2	12	13	2.5
ASA18-12	-12	3/4	19	19	2.5
*ASA18-16	-16	1	25	25	2.5
ASA18-20	-20	1.1/4	31	33	2.5
ASA18-24	-24	1.1/2	38	40	3
ASA18-32	-32	2	51	49	3
**ASA18-40	-40	2.1/2	63	72	3
***ASA18-48	-48	3	76	80	3

\* The same as ASAF18-16

\*\* The same as ASAF18-40 & ASAFPX18-48

\*\*\* The same as ASAFP18-56

FLUSHFIT STAPLE ADAPTORS 69

## SERIES ASAF18

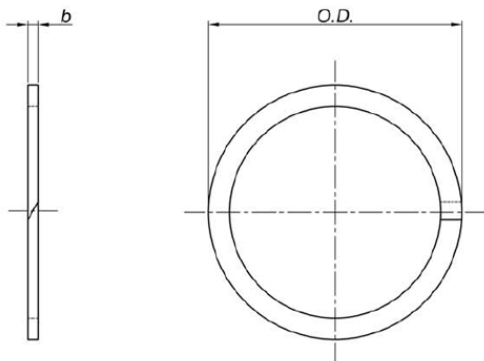
Material: Nitrile Rubber

PART REF	NOMINAL BORE			I.D.	d
	DASH	INCH	DN		
ASAF18-24	-24	1.1/2	38	35	2.5
ASAF18-32	-32	2	51	56	2
ASAF18-40	-40	2.1/2	63	75	3

All dimensions in mm

# STAPLE MALE END - BACK-UP-RING

SERIES ASA19 - ASAF19



Material: Polyamide

PART REF	NOMINAL BORE			O.D.	b
	DASH	INCH	DN		
ASA19-04	-4	1/4	6	10	0.8
ASA19-06	-6	3/8	10	14	0.8
ASA19-08	-8	1/2	12	18	0.8
ASA19-12	-12	3/4	19	24	0.8
*ASA19-16	-16	1	25	31	0.8
ASA19-20	-20	1.1/4	31	38	0.8
ASA19-24	-24	1.1/2	38	47	1.5
ASA19-32	-32	2	51	56	1.5

\* The same as ASAF19-16

## SERIES ASAF19

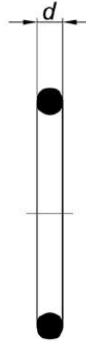
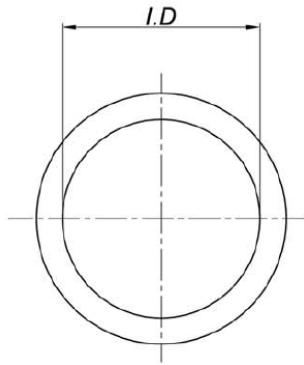
Material: Polyamide

PART REF	NOMINAL BORE			O.D.	b
	DASH	INCH	DN		
ASAF19-24	-24	1.1/2	38	42	1.5

All dimensions in mm

# STAPLE MALE END - O-RING

## SERIES ASH18 - ASHF18



Material: Nitrile Rubber

PART REF	NOMINAL BORE			I.D.	d
	DASH	INCH	DN		
ASH18-08	-8	1/2	12	11	2.5
ASH18-12	-12	3/4	19	18	2.5
ASH18-16	-16	1	25	25	2.5
ASH18-20	-20	1.1/4	31	33	2.5
*ASH18-24	-24	1.1/2	38	38	3
*ASH18-32	-32	2	51	44	3

\* The same as ASHF18-24

\*\* The same as ASHF18-32

## SERIES ASHF18

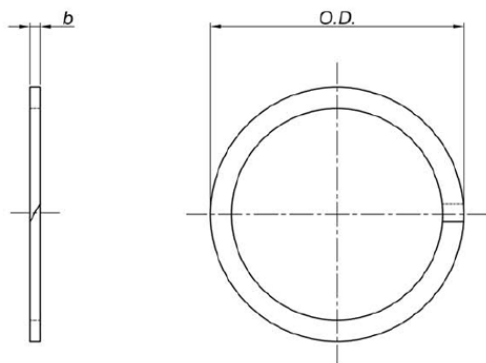
Material: Nitrile Rubber

PART REF	NOMINAL BORE			I.D.	d
	DASH	INCH	DN		
ASHF18-40	-40	2.1/2	63	59	3.5
ASHF18-48	-48	3	76	70	3.5

All dimensions in mm

# STAPLE MALE END - BACK-UP-RING

SERIES ASH19 - ASHF19



Material: Polyamide

PART REF	NOMINAL BORE			O.D.	b
	DASH	INCH	DN		
ASH19-08	-8	1/2	12	16	0.8
ASH19-12	-12	3/4	19	22	0.8
ASH19-16	-16	1	25	31	0.8
ASH19-20	-20	1.1/4	31	38	0.8
*ASH19-24	-24	1.1/2	38	44	1.5
**ASH19-32	-32	2	51	50	1.5

\* The same as ASHF19-24

\*\* The same as ASHF19-32

## SERIES ASHF19

Material: Polyamide

PART REF	NOMINAL BORE			O.D.	b
	DASH	INCH	DN		
ASHF19-40	-40	2.1/2	63	65	1.5
ASHF19-48	-48	3	76	77	1.5

All dimensions in mm



## **Port Connector Staple Adaptors - Stud End**

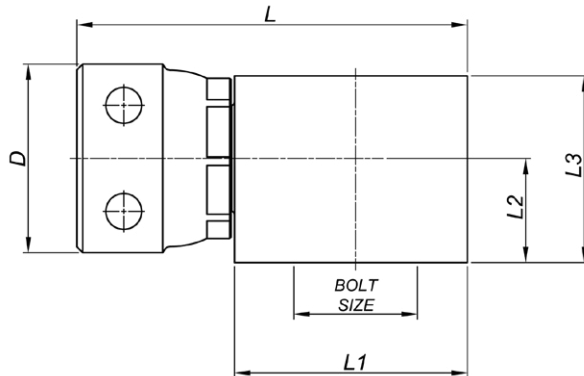
For when an item which needs to be incorporated into a system has a threaded port, Manuli also offers a range of stud-end-to-staple port connectors.

These port connectors are available in Standard, High Pressure and FlushFit configurations to ensure they integrate seamlessly into the system as a whole.



# STAPLE BANJO

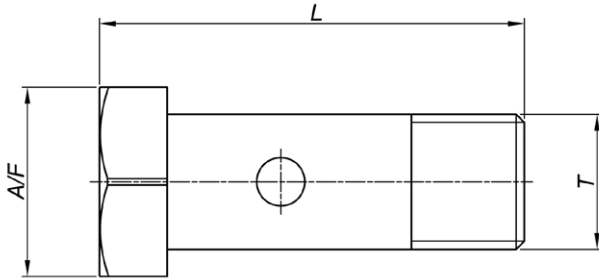
## SERIES ASA16



PART REF	BOLT SIZE	NOMINAL BORE			L	L1	L2	L3	D
		DASH	INCH	DN					
ASA16-04-04	1/4" BSP	4	1/4	6	37	26	14	22	25
ASA16-04-06	1/4" BSP	6	3/8	10	37	25	16.5	29	32
ASA16-06-06	3/8" BSP	6	3/8	10	45	34	16.5	29	32
ASA16-06-08	3/8" BSP	8	1/2	12	45	33	17.5	29	35
ASA16-08-06	1/2" BSP	6	3/8	10	51	40	16.5	32	32
ASA16-08-08	1/2" BSP	8	1/2	12	51	40	17.5	32	35
ASA16-12-12	3/4" BSP	12	3/4	19	74	47	24	46	45
ASA16-16-16	1" BSP	16	1	25	93	58	31	55	60

# BANJO BOLT

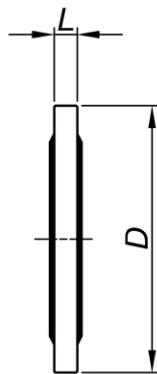
## SERIES ASA16B



PART REF	THREAD (T)	L	ACROSS FLATS (AF)
ASA16B-04	1/4" BSP	36	18
ASA16B-06	3/8" BSP	40	23.5
ASA16B-08	1/2" BSP	50	25.5
ASA16B-12	3/4" BSP	76.5	33
ASA16B-16	1" BSP	91	42

# BONDED WASHER

## SERIES ASA16W

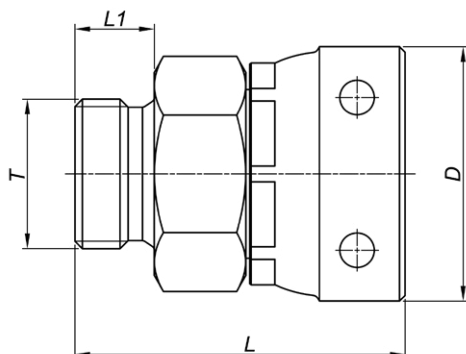


PART REF	BOLT SIZE	L	D
ASA16W - 04	1/4" BSP	2.1	20.6
ASA16W - 06	3/8" BSP	2.1	23.8
ASA16W - 08	1/2" BSP	2.5	28.6
ASA16W - 12	3/4" BSP	2.5	34.9
ASA16W - 16	1" BSP	3.3	42.8
ASA16W - 20	1.1/4" BSP	3.3	52.4
ASA16W - 24	1.1/2" BSP	3.3	58.6
ASA16W - 32	2" BSP	3.3	73.0

All dimensions in mm

# BSP MALE FLAT FACE - SWIVEL FEMALE ADAPTOR

## SERIES ASA40

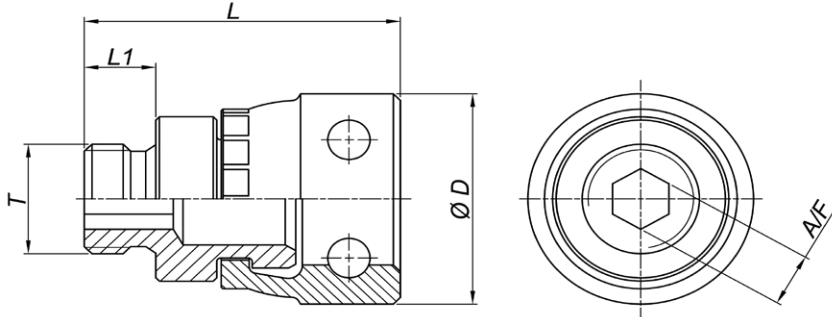


PART REF	THREAD (T)	NOMINAL BORE			L	L1	D	AF
		DASH	INCH	DN				
ASA40-04-04	1/4 " BSP	4	1/4	6	47	10	32	22
ASA40-04-06	1/4 " BSP	6	3/8	10	47	10	32	22
ASA40-06-04	3/8 " BSP	4	1/4	6	47	9	25	22
ASA40-06-06	3/8 " BSP	6	3/8	10	48	10	32	22
ASA40-06-08	3/8 " BSP	8	1/2	12	53	10	35	27
ASA40-08-06	1/2 " BSP	6	3/8	10	54	13	32	27
ASA40-08-08	1/2 " BSP	8	1/2	12	56	13	35	27
ASA40-08-12	1/2 " BSP	12	3/4	19	59	13	45	36
ASA40-12-08	3/4 " BSP	8	1/2	12	59	14	35	36
ASA40-12-12	3/4 " BSP	12	3/4	19	59	14	45	36
ASA40-12-16	3/4 " BSP	16	1	25	63	14	60	46
ASA40-16-08	1" BSP	8	1/2	12	60	17	35	41
ASA40-16-12	1" BSP	12	3/4	19	62	17	45	46
ASA40-16-16	1" BSP	16	1	25	73	17	60	46
ASA40-16-20	1" BSP	20	1.1/4	31	80	17	60	50
ASA40-20-12	1.1/4" BSP	12	3/4	19	63	20	60	50
ASA40-20-16	1.1/4 " BSP	16	1	25	77	19	60	50
ASA40-20-20	1.1/4 " BSP	20	1.1/4	31	74	19	60	50
ASA40-24-20	1.1/2 " BSP	20	1.1/4	31	72	20	60	55
*ASA40F-24-24	1.1/2 " BSP	24	1.1/2	38	76	20	70	70
*ASA40F-32-32	2" BSP	32	2	51	80	23	80	80

\* Fixed Female

# BSP MALE FLAT FACE - SWIVEL FEMALE - COMPACT

## SERIES ASA40C

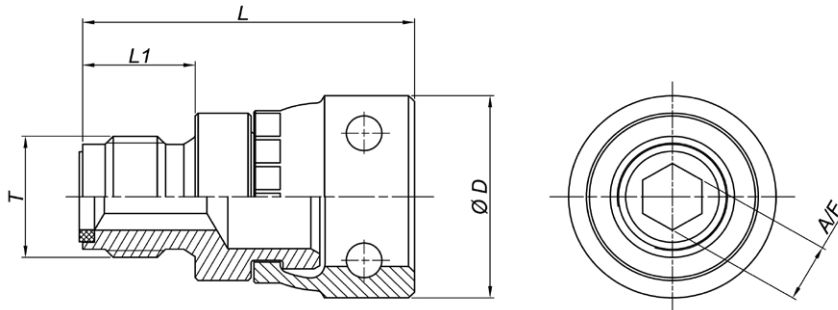


PART REF	THREAD (T)	NOMINAL BORE			L	L1	D	A/F
		DASH	INCH	DN				
ASA40C-06-06	3/8" BSP	6	3/8	10	45	10	32	8
ASA40C-06-08	3/8" BSP	6	3/8	10	47	10	35	8
ASA40C-08-06	1/2" BSP	8	1/2	12	48	13	32	10
ASA40C-08-08	1/2" BSP	8	1/2	12	49	13	35	10
ASA40C-12-08	3/4" BSP	12	3/4	19	50	14	35	14
ASA40C-12-12	3/4" BSP	12	3/4	19	54	16	45	14
ASA40C-16-16	1" BSP	16	1	25	61	16.5	60	19
ASA40C-16-20	1" BSP	16	1	25	60	16.5	60	19

All dimensions in mm

# BSP MALE O-RING - SWIVEL FEMALE - COMPACT

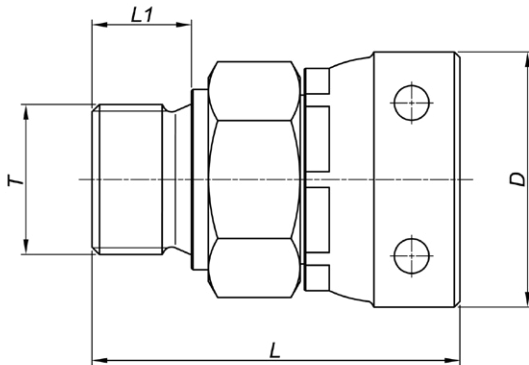
## SERIES ASA41C



PART REF	THREAD (T)	NOMINAL BORE			L	L1	D	A/F
		DASH	INCH	DN				
ASA41C-08-06	1/2" BSP	6	3/8	10	50	19	32	10
ASA41C-08-08	1/2" BSP	8	1/2	12	56	19	35	10
ASA41C-12-06	3/4" BSP	6	3/8	10	42	16.5	32	10
ASA41C-12-08	3/4" BSP	8	1/2	12	43	16.5	35	10
ASA41C-12-12	3/4" BSP	12	3/4	19	62	24	45	14
ASA41C-16-16	1" BSP	16	1	25	71	25.5	60	19

# BSP MALE FORM D - SWIVEL FEMALE ADAPTOR

## SERIES ASA42

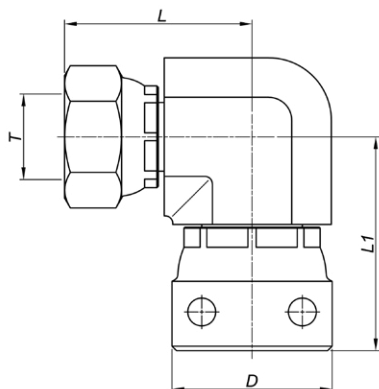


PART REF	THREAD (T)	NOMINAL BORE			L	L1	D	AF
		DASH	INCH	DN				
ASA42-04-04	1/4 " BSP	4	1/4	6	52	12	25	22
ASA42-06-04	3/8 " BSP	4	1/4	6	52	12	25	22
ASA44-06-06	3/8 " BSP	6	3/8	10	52	12	32	24
ASA42-06-08	3/8 " BSP	8	1/2	12	57	12	35	30
ASA42-08-06	1/2 " BSP	6	3/8	10	57	14	32	27
ASA42-08-08	1/2 " BSP	8	1/2	12	57	14	35	30
ASA42-08-12	1/2 " BSP	12	3/4	19	57	14	45	36
ASA42-12-08	3/4 " BSP	8	1/2	12	59	16	35	32
ASA42-12-12	3/4 " BSP	12	3/4	19	59	16	45	36
ASA42-12-16	3/4 " BSP	16	1	25	66	16	60	46
ASA42-16-08	1" BSP	8	1/2	12	61	18	35	41
ASA42-16-12	1" BSP	12	3/4	19	63	18	45	41
ASA42-16-16	1" BSP	16	1	25	68	18	60	46
ASA42-16-20	1" BSP	20	1.1/4	31	68	18	60	50
ASA42-20-16	1.1/4 " BSP	16	1	25	70	20	60	50
ASA42-20-20	1.1/4 " BSP	20	1.1/4	31	70	20	60	50
ASA42-24-20	1.1/2 " BSP	20	1.1/4	31	72	22	60	55

All dimensions in mm

# 90° BSP FEMALE 60° CONE - SWIVEL FEMALE ADAPTOR

SERIES ASA44

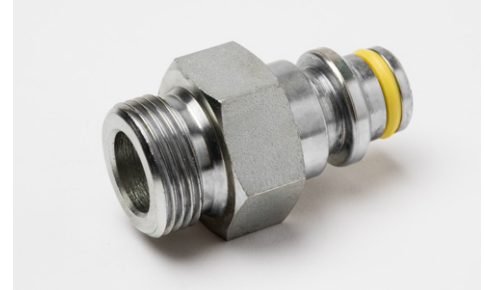
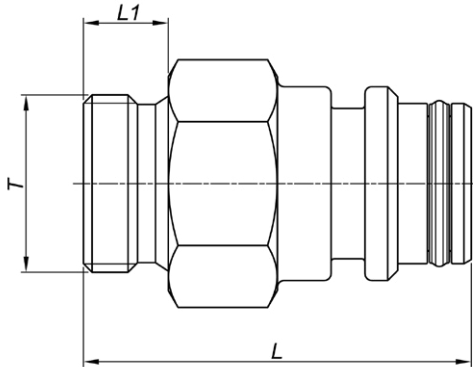


PART REF	THREAD (T)	NOMINAL BORE			L	L1	D
		DASH	INCH	DN			
ASA44-04-04	1/4 " BSP	4	1/4	6	43	44	25
ASA44-06-06	3/8 " BSP	6	3/8	10	42	48	32
ASA44-08-08	1/2 " BSP	8	1/2	12	45	48	35



# BSP MALE FLAT FACE - STAPLE MALE ADAPTOR

## SERIES ASA46

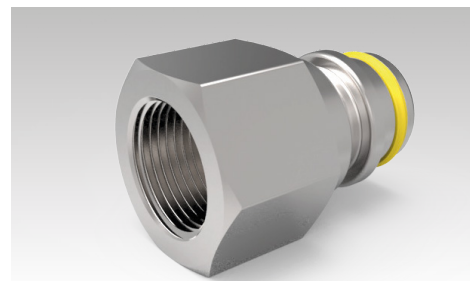
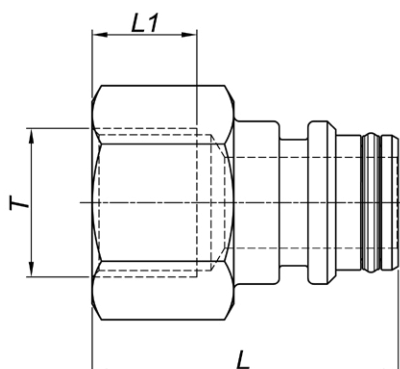


PART REF	THREAD (T)	NOMINAL BORE			L	L1	AF
		DASH	INCH	DN			
ASA46-04-04	1/4 " BSP	4	1/4	6	51	9	19
ASA46-04-06	1/4 " BSP	6	3/8	10	51	9	22
ASA46-06-04	3/8 " BSP	4	1/4	6	51	10	22
ASA46-06-06	3/8 " BSP	6	3/8	10	51	10	22
ASA46-06-08	3/8 " BSP	8	1/2	12	50	10	27
ASA46-08-06	1/2 " BSP	6	3/8	10	50	13	27
ASA46-08-08	1/2 " BSP	8	1/2	12	55	13	27
ASA46-12-08	3/4 " BSP	8	1/2	12	58	14	32
ASA46-12-12	3/4 " BSP	12	3/4	19	58	14	32
ASA46-12-16	3/4 " BSP	16	1	25	72	14	46
ASA46-16-08	1" BSP	8	1/2	12	62	17	41
ASA46-16-16	1" BSP	16	1	25	72	17	46
ASA46-20-16	1.1/4 " BSP	16	1	25	79	19	50
ASA46-20-20	1.1/4 " BSP	20	1.1/4	31	79	19	50
ASA46-24-24	1.1/2 " BSP	24	1.1/2	38	82	23	60
ASA46-32-32	2" BSP	32	2	51	82	23	70

All dimensions in mm

# BSP FIXED FEMALE - STAPLE MALE ADAPTOR

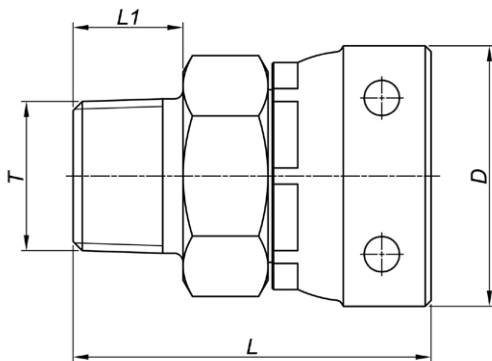
SERIES ASA48



PART REF	THREAD (T)	NOMINAL BORE			L	L1	AF
		DASH	INCH	DN			
ASA48-04-04	1/4 " BSP	4	1/4	6	51	13	21
ASA48-06-06	3/8 " BSP	6	3/8	10	54	13	24
ASA48-08-06	1/2 " BSP	6	3/8	10	55	17	30
ASA48-08-08	1/2 " BSP	8	1/2	12	54	17	30

# NPTF MALE - SWIVEL FEMALE ADAPTOR

## SERIES ASA50

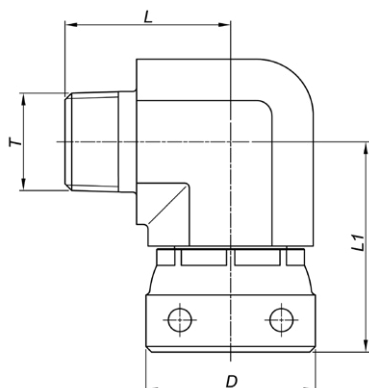


PART REF	THREAD (T)	NOMINAL BORE			L	L1	D	AF
		DASH	INCH	DN				
ASA50-02-04	1/8 " NPTF	4	1/4	6	47	10	25	19
ASA50-04-04	1/4 " NPTF	4	1/4	6	52	15	25	19
ASA50-04-06	1/4 " NPTF	6	3/8	10	52	15	32	22
ASA50-06-04	3/8 " NPTF	4	1/4	6	55	15	25	19
ASA50-06-06	3/8 " NPTF	6	3/8	10	52	15	32	22
ASA50-06-08	3/8 " NPTF	8	1/2	12	56	15	35	27
ASA50-08-06	1/2 " NPTF	6	3/8	10	57	19	32	22
ASA50-08-08	1/2 " NPTF	8	1/2	12	60	19	35	27
ASA50-08-12	1/2 " NPTF	12	3/4	19	62	19	45	36
ASA50-12-08	3/4 " NPTF	8	1/2	12	60	19	35	30
ASA50-12-12	3/4 " NPTF	12	3/4	19	63	19	45	36
ASA50-12-16	3/4 " NPTF	16	1	25	76	19	60	46
ASA50-16-12	1" NPTF	12	3/4	19	65	24	45	36
ASA50-16-16	1" NPTF	16	1	25	81	24	60	46
ASA50-16-20	1" NPTF	20	1.1/4	31	81	24	60	50
ASA50-20-16	1.1/4 " NPTF	16	1	25	82	25	60	46
ASA50-20-20	1.1/4 " NPTF	20	1.1/4	31	82	25	60	50
*ASA50F-24-24	1.1/2 " NPTF	24	1.1/2	38	80	26	76	70
*ASA50F-32-32	2" NPTF	32	2	51	80	26	85	75

\* Fixed Female

# 90° NPTF MALE - SWIVEL FEMALE ADAPTOR

SERIES ASA52

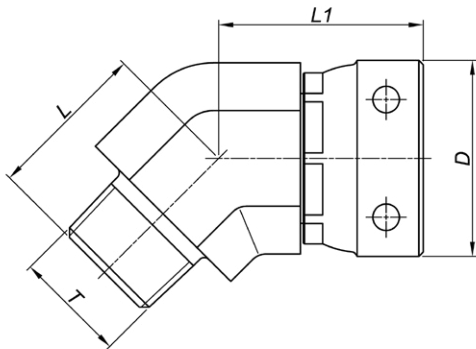


PART REF	THREAD (T)	NOMINAL BORE			L	L1	D
		DASH	INCH	DN			
ASA52-02-04	1/8 " NPTF	4	1/4	6	31	44	25
ASA52-04-04	1/4 " NPTF	4	1/4	6	31	44	25
ASA52-04-06	1/4 " NPTF	6	3/8	10	34	44	32
ASA52-06-04	3/8 " NPTF	4	1/4	6	31	44	25
ASA52-06-06	3/8 " NPTF	6	3/8	10	34	44	32
ASA52-06-08	3/8 " NPTF	8	1/2	12	34	48	35
ASA52-08-06	1/2 " NPTF	6	3/8	10	36	44	32
ASA52-08-08	1/2 " NPTF	8	1/2	12	40	48	35
ASA52-08-12	1/2 " NPTF	12	3/4	19	44	57	45
ASA52-12-08	3/4 " NPTF	8	1/2	12	40	48	35
ASA52-12-12	3/4 " NPTF	12	3/4	19	44	57	45
ASA52-12-16	3/4 " NPTF	16	1	25	46	67	60
ASA52-16-12	1 " NPTF	12	3/4	19	48	58	45
ASA52-16-16	1 " NPTF	16	1	25	58	67	60
ASA52-20-20	1.1/4 " NPTF	20	1.1/4	31	66	67	60
*ASA52F-24-24	1.1/2 " NPTF	24	1.1/2	38	80	81	76
*ASA52F-32-32	2" NPTF	32	2	51	102	102	85

\* Fixed Female

# 135° NPTF MALE - SWIVEL FEMALE ADAPTOR

## SERIES ASA55

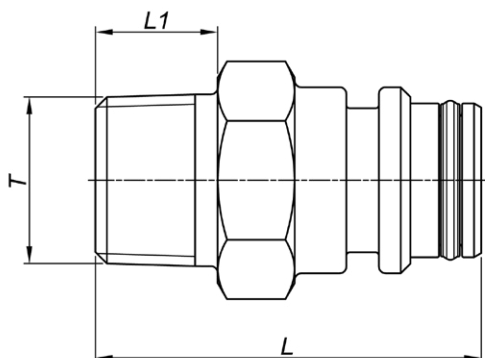


PART REF	THREAD (T)	NOMINAL BORE			L	L1	D
		DASH	INCH	DN			
ASA55-04-04	1/4 " NPTF	4	1/4	6	28	39	25
ASA55-06-06	3/8 " NPTF	6	3/8	10	29	39	32
ASA55-08-08	1/2 " NPTF	8	1/2	12	31	40	35
ASA55-12-12	3/4 " NPTF	12	3/4	19	38	48	45
ASA55-16-16	1 " NPTF	16	1	25	49	54	60
ASA55-20-20	1.1/4 " NPTF	20	1.1/4	31	50	48	60

All dimensions in mm

# NPTF MALE - STAPLE MALE ADAPTOR

SERIES ASA56

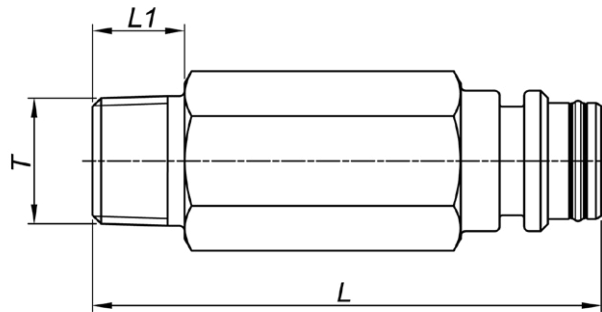


PART REF	THREAD (T)	NOMINAL BORE			L	L1	A/F
		DASH	INCH	DN			
ASA56-02-04	1/8 " NPTF	4	1/4	6	53	10	19
ASA56-04-04	1/4 " NPTF	4	1/4	6	53	14	19
ASA56-04-06	1/4 " NPTF	6	3/8	10	53	14	22
ASA56-06-04	3/8 " NPTF	4	1/4	6	53	14	19
ASA56-06-06	3/8 " NPTF	6	3/8	10	53	14	22
ASA56-06-08	3/8 " NPTF	8	1/2	12	53	14	27
ASA56-08-06	1/2 " NPTF	6	3/8	10	58	19	22
ASA56-08-08	1/2 " NPTF	8	1/2	12	58	19	27
ASA56-08-12	1/2 " NPTF	12	3/4	19	60	19	32
ASA56-12-08	3/4 " NPTF	8	1/2	12	60	19	30
ASA56-12-12	3/4 " NPTF	12	3/4	19	60	19	32
ASA56-12-16	3/4 " NPTF	16	1	25	74	19	41
ASA56-16-12	1 " NPTF	12	3/4	19	68	24	36
ASA56-16-16	1 " NPTF	16	1	25	78	24	41
ASA56-20-20	1.1/4 " NPTF	20	1.1/4	31	79	25	50
ASA56-24-24	1.1/2 " NPTF	24	1.1/2	38	82	27	60
ASA56-32-32	2" NPTF	32	2	51	82	27	70

All dimensions in mm

# NPTF MALE LONG - STAPLE MALE ADAPTOR

## SERIES ASA56L

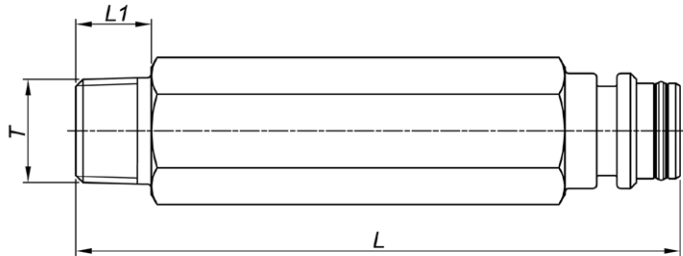


PART REF	THREAD (T)	NOMINAL BORE			L	L1	AF
		DASH	INCH	DN			
ASA56L-02-04	1/8 " NPTF	4	1/4	6	90	10	19
ASA56L-04-04	1/4 " NPTF	4	1/4	6	88	14	19
ASA56L-04-06	1/4 " NPTF	6	3/8	10	98	14	22
ASA56L-06-06	3/8 " NPTF	6	3/8	10	100	15	22
ASA56L-06-08	3/8 " NPTF	8	1/2	12	102	15	27
ASA56L-08-06	1/2 " NPTF	6	3/8	10	98	19	22
ASA56L-08-08	1/2 " NPTF	8	1/2	12	100	19	27
ASA56L-12-12	3/4 " NPTF	12	3/4	19	105	19	32
ASA56L-16-16	1 " NPTF	16	1	25	133	24	41

All dimensions in mm

# NPTF MALE EXTRA LONG - STAPLE MALE ADAPTOR

SERIES ASA56XL

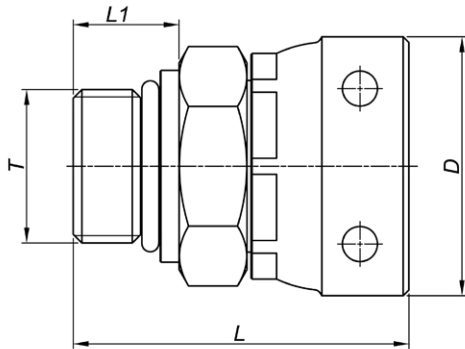


PART REF	THREAD (T)	NOMINAL BORE			L	L1	AF
		DASH	INCH	DN			
ASA56XL-04-04	1/4 " NPTF	4	1/4	6	125	14	19
ASA56XL-06-06	3/8 " NPTF	6	3/8	10	125	14	22
ASA56XL-06-08	3/8 " NPTF	8	1/2	12	145	14	27
ASA56XL-08-06	1/2 " NPTF	6	3/8	10	125	19	22
ASA56XL-08-08	1/2 " NPTF	8	1/2	12	144	19	27
ASA56XL-12-12	3/4 " NPTF	12	3/4	19	152	19	32
ASA56XL-16-16	1 " NPTF	16	1	25	198	24	41
ASA56XL-20-20	1.1/4 " NPTF	20	1.1/4	31	212	25	50



# UNF MALE ORB - SWIVEL FEMALE ADAPTOR

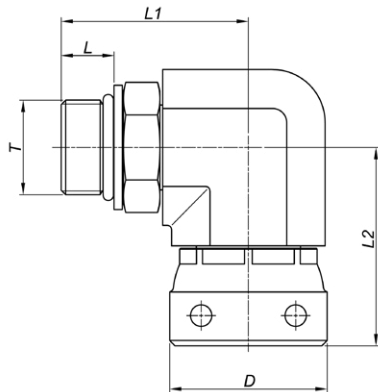
## SERIES ASA60



PART REF	THREAD (T)	NOMINAL BORE			L	L1	D	AF
		DASH	INCH	DN				
ASA60-04-04	7/16 " 20 UNF	4	1/4	6	50	11	25	19
ASA60-04-06	7/16 " 20 UNF	6	3/8	10	50	11	32	22
ASA60-05-04	1/2 " 20 UNF	4	1/4	6	50	11	25	19
ASA60-06-04	9/16 " 18 UNF	4	1/4	6	50	12	25	19
ASA60-06-06	9/16 " 18 UNF	6	3/8	10	50	12	32	22
ASA60-06-08	9/16 " 18 UNF	8	1/2	12	54	12	35	27
ASA60-08-06	3/4 " 16 UNF	6	3/8	10	55	14	32	27
ASA60-08-08	3/4 " 16 UNF	8	1/2	12	56	14	35	27
ASA60-08-12	3/4 " 16 UNF	12	3/4	19	59	14	45	36
ASA60-10-08	7/8 " 14 UNF	8	1/2	12	59	16	35	27
ASA60-10-12	7/8 " 14 UNF	12	3/4	19	59	16	45	36
ASA60-12-08	1.1/6 " 12 UNF	8	1/2	12	59	18	35	36
ASA60-12-12	1.1/6 " 12 UNF	12	3/4	19	59	18	45	36
ASA60-12-16	1.1/6 " 12 UNF	16	1	25	76	18	60	46
ASA60-16-12	1.5/16 " 12 UNF	12	3/4	19	59	19	45	41
ASA60-16-16	1.5/16 " 12 UNF	16	1	25	76	19	60	46
ASA60-16-20	1.5/16 " 12 UNF	20	1.1/4	31	73	19	60	46
ASA60-20-12	1.5/8 " 12 UNF	12	3/4	19	59	19	45	50
ASA60-20-20	1.5/8 " 12 UNF	20	1.1/4	31	73	19	60	50

# 90° UNF MALE ORB - SWIVEL FEMALE ADAPTOR

## SERIES ASA62



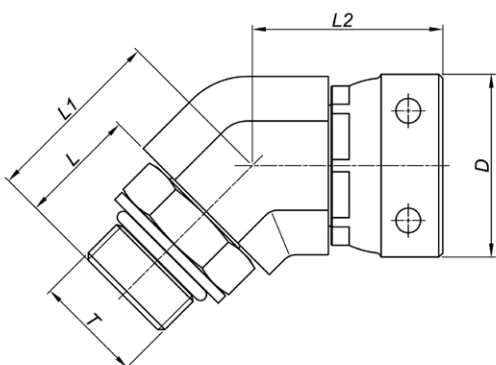
PART REF	THREAD (T)	NOMINAL BORE			L	L1	L2	D
		DASH	INCH	DN				
ASA62-04-04	7/16 " 20 UNF	4	1/4	6	10	32	44	25
ASA62-04-06	7/16 " 20 UNF	6	3/8	10	10	37	44	32
ASA62-06-04	9/16 " 18 UNF	4	1/4	6	12	38	44	25
ASA62-06-06	9/16 " 18 UNF	6	3/8	10	12	38	44	32
ASA62-06-08	9/16 " 18 UNF	8	1/2	12	12	45	48	35
ASA62-08-06	3/4 " 16 UNF	6	3/8	10	13	45	48	32
ASA62-08-08	3/4 " 16 UNF	8	1/2	12	13	46	48	35
ASA62-10-08	7/8 " 14 UNF	8	1/2	12	15	45	51	35
ASA62-10-12	7/8 " 14 UNF	12	3/4	19	15	54	57	45
ASA62-12-08	1.1/6 " 12 UNF	8	1/2	12	18	54	57	35
ASA62-12-12	1.1/6 " 12 UNF	12	3/4	19	18	54	57	45
ASA62-16-16	1.5/16 " 12 UNF	16	1	25	18	65	68	60
ASA62-20-20	1.5/8 " 12 UNF	20	1.1/4	31	18	65	68	60

PORT CONNECTOR  
STUD ENDS  
90

All dimensions in mm

# 135° UNF MALE ORB - SWIVEL FEMALE ADAPTOR

## SERIES ASA65

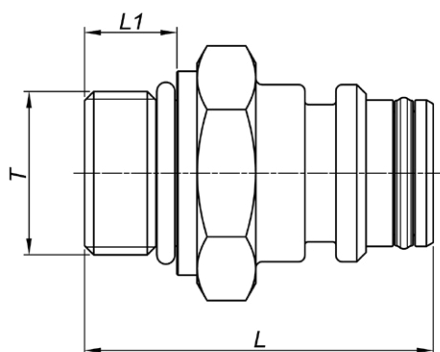


PART REF	THREAD (T)	NOMINAL BORE			L	L1	L2	D
		DASH	INCH	DN				
ASA65-04-04	7/16 " 20 UNF	4	1/4	6	10	32	40	25
ASA65-04-06	7/16 " 20 UNF	6	3/8	10	10	34	40	32
ASA65-06-04	9/16 " 18 UNF	4	1/4	6	12	34	40	25
ASA65-06-06	9/16 " 18 UNF	6	3/8	10	12	34	40	32
ASA65-06-08	9/16 " 18 UNF	8	1/2	12	12	45	40	35
ASA65-08-06	3/4 " 16 UNF	6	3/8	10	13	46	40	32
ASA65-08-08	3/4 " 16 UNF	8	1/2	12	13	46	40	35
ASA65-10-08	7/8 " 14 UNF	8	1/2	12	15	41	40	35
ASA65-12-08	1.1/6 " 12 UNF	8	1/2	12	18	45	40	35
ASA65-12-12	1.1/6 " 12 UNF	12	3/4	19	18	45	40	45
ASA65-16-16	1.5/16 " 12 UNF	16	1	25	18	51	51	60
ASA65-20-20	1.5/8 " 12 UNF	20	1.1/4	31	18	51	51	60

All dimensions in mm

# UNF MALE ORB - STAPLE MALE ADAPTOR

SERIES ASA66

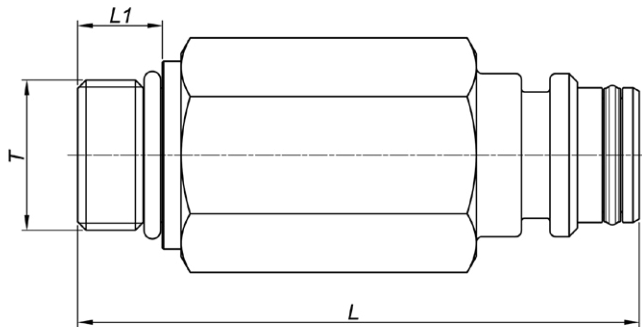


PART REF	THREAD (T)	NOMINAL BORE			L	L1	AF
		DASH	INCH	DN			
ASA66-04-04	7/16 " 20 UNF	4	1/4	6	50	14	19
ASA66-04-06	7/16 " 20 UNF	6	3/8	10	50	14	22
ASA66-05-04	1/2 " 20 UNF	4	1/4	6	52	14	19
ASA66-06-04	9/16 " 18 UNF	4	1/4	6	52	14	19
ASA66-06-06	9/16 " 18 UNF	6	3/8	10	52	14	22
ASA66-06-08	9/16 " 18 UNF	8	1/2	12	56	14	27
ASA66-08-06	3/4 " 16 UNF	6	3/8	10	53	15	22
ASA66-08-08	3/4 " 16 UNF	8	1/2	12	53	15	27
ASA66-08-12	3/4 " 16 UNF	12	3/4	19	55	15	32
ASA66-10-06	7/8 " 14 UNF	6	3/8	10	55	17	27
ASA66-10-08	7/8 " 14 UNF	8	1/2	12	56	17	27
ASA66-10-12	7/8 " 14 UNF	12	3/4	19	55	17	32
ASA66-12-08	1.1/6 " 12 UNF	8	1/2	12	57	19	36
ASA66-12-12	1.1/6 " 12 UNF	12	3/4	19	57	19	36
ASA66-16-12	1.5/16 " 12 UNF	12	3/4	19	60	20	41
ASA66-16-16	1.5/16 " 12 UNF	16	1	25	73	20	41
ASA66-20-20	1.5/8 " 12 UNF	20	1.1/4	31	73	20	50

All dimensions in mm

# UNF MALE ORB LONG - STAPLE MALE ADAPTOR

## SERIES ASA66L

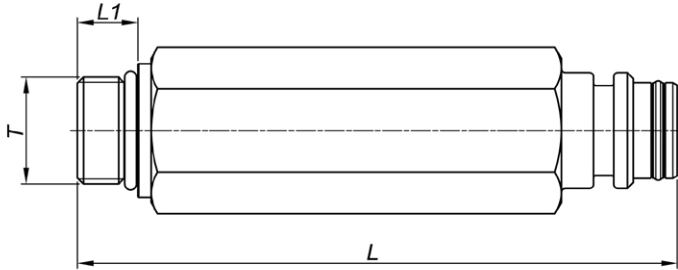


PART REF	THREAD (T)	NOMINAL BORE			L	L1	AF
		DASH	INCH	DN			
ASA66L-04-04	7/16 " 20 UNF	4	1/4	6	85	14	19
ASA66L-06-04	9/16 " 18 UNF	4	1/4	6	85	14	19
ASA66L-06-06	9/16 " 18 UNF	6	3/8	10	95	14	22
ASA66L-08-06	3/4 " 16 UNF	6	3/8	10	95	15	22
ASA66L-08-08	3/4 " 16 UNF	8	1/2	12	95	15	27
ASA66L-10-08	7/8 " 14 UNF	8	1/2	12	95	17	27
ASA66L-12-08	1.1/6 " 12 UNF	8	1/2	12	95	19	27
ASA66L-12-12	1.1/6 " 12 UNF	12	3/4	19	100	19	36
ASA66L-16-16	1.5/16 " 12 UNF	16	1	25	130	21	41
ASA66L-20-20	1.5/8 " 12 UNF	20	1.1/4	31	140	21	50

All dimensions in mm

# UNF MALE ORB EXTRA LONG - STAPLE MALE ADAPTOR

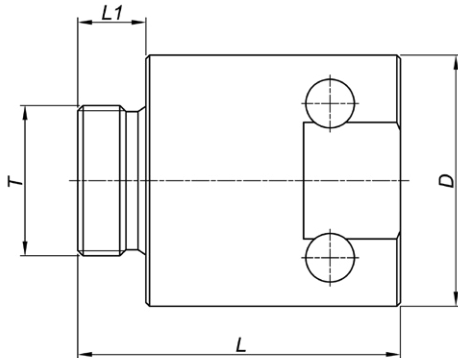
SERIES ASA66XL



PART REF	THREAD (T)	NOMINAL BORE			L	L1	AF
		DASH	INCH	DN			
ASA66XL-04-04	7/16 " 20 UNF	4	1/4	6	122	14	19
ASA66XL-06-04	9/16 " 18 UNF	4	1/4	6	122	14	19
ASA66XL-06-06	9/16 " 18 UNF	6	3/8	10	122	14	22
ASA66XL-08-06	3/4 " 16 UNF	6	3/8	10	122	15	22
ASA66XL-08-08	3/4 " 16 UNF	8	1/2	12	140	15	27
ASA66XL-10-08	7/8 " 14 UNF	8	1/2	12	140	17	27
ASA66XL-12-12	1.1/6 " 12 UNF	12	3/4	19	150	19	36

# BSP MALE FLAT FACE - FEMALE ADAPTOR

## SERIES ASH40F

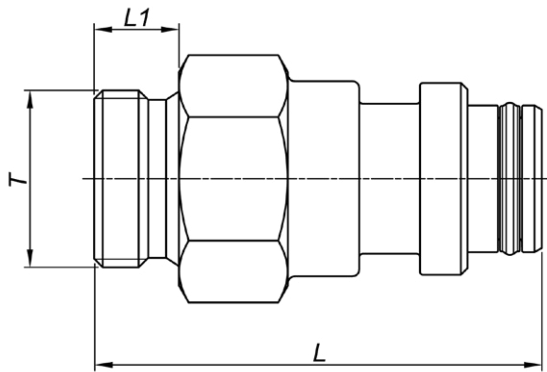


PART REF	THREAD (T)	NOMINAL BORE			L	L1	D
		DASH	INCH	DN			
*ASH40-12-12	3/4" BSP	12	3/4	19	70	13	45
*ASH40-16-16	1" BSP	16	1	25	90	17	60
ASH40F-20-20	1.1/4" BSP	20	1.1/4	31	90	19	70
ASH40F-24-24	1.1/2" BSP	24	1.1/2	38	100	19	80
ASH40F-32-32	2" BSP	32	2	51	100	23	95

\* Swivel Female "F" - Fixed Female

# BSP MALE FLAT FACE - STAPLE MALE ADAPTOR

## SERIES ASH46

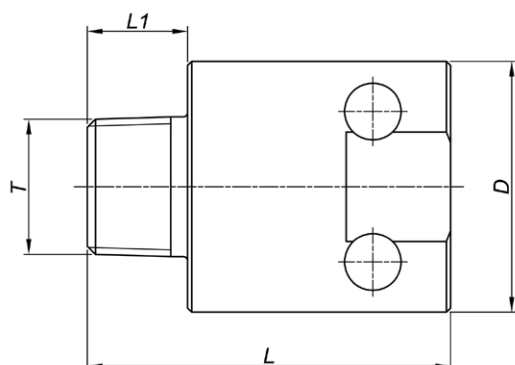


PART REF	THREAD (T)	NOMINAL BORE			L	L1	AF
		DASH	INCH	DN			
ASH46-12-12	3/4" BSP	12	3/4	19	68	14	32
ASH46-16-16	1" BSP	16	1	25	86	17	46
ASH46-20-20	1.1/4" BSP	20	1.1/4	31	94	19	50
ASH46-24-24	1.1/2" BSP	24	1.1/2	38	100	19	60
ASH46-32-32	2" BSP	32	2	51	104	23	70

All dimensions in mm

# NPTF MALE - FEMALE ADAPTOR

SERIES ASH50

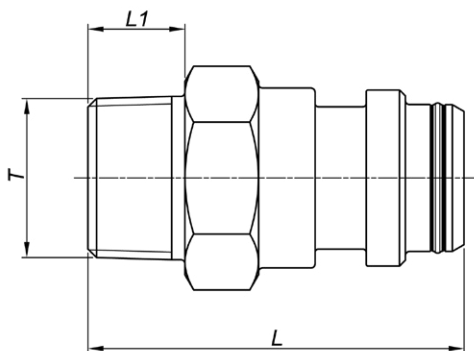


PART REF	THREAD (T)	NOMINAL BORE			L	L1	D	AF
		DASH	INCH	DN				
*ASH50-12-12	3/4" NPTF	12	3/4	19	70	19	45	36
*ASH50-16-16	1" NPTF	16	1	25	95	24	60	50
ASH50F-20-20	1.1/4" NPTF	20	1.1/4	31	95	24	70	60
ASH50F-24-24	1.1/2" NPTF	24	1.1/2	38	95	26	80	70
ASH50F-32-32	2" NPTF	32	2	51	95	26	95	85

\* Swivel Female "F" - Fixed Female

# NPTF MALE - STAPLE MALE ADAPTOR

SERIES ASH56



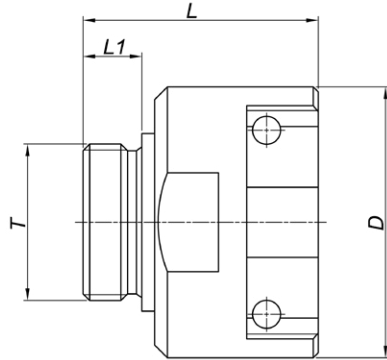
PART REF	THREAD (T)	NOMINAL BORE			L	L1	AF
		DASH	INCH	DN			
ASH56-12-12	3/4" NPTF	12	3/4	19	73	19	32
ASH56-16-16	1" NPTF	16	1	25	93	24	46
ASH56-20-20	1.1/4" NPTF	20	1.1/4	31	97	25	50
ASH56-24-24	1.1/2" NPTF	24	1.1/2	38	106	26	60
ASH56-32-32	2" NPTF	32	2	51	106	26	70

All dimensions in mm



# BSP MALE FLAT FACE - FLUSHFIT FIXED FEMALE ADAPTOR

SERIES ASAF40

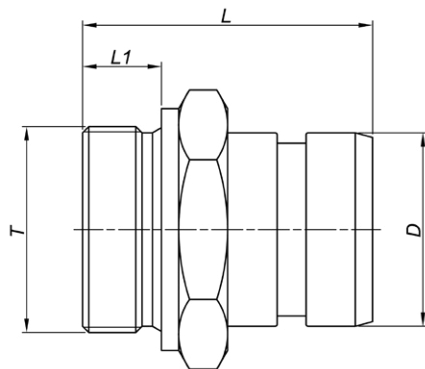


PART REF	THREAD (T)	NOMINAL BORE			L	L1	D
		DASH	INCH	DN			
*ASAF40-24-24	1.1/2" BSP	24	1.1/2	38	77	20	70
ASAF40-32-32	2" BSP	32	2	51	70	23	76
ASAF40-40-40	2.1/2" BSP	40	2.1/2	63	87	27	106

\* Seal Fitted to Male End

# BSP MALE FLAT FACE - FLUSHFIT MALE ADAPTOR

SERIES ASAF46



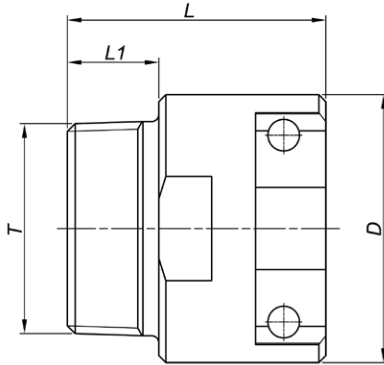
PART REF	THREAD (T)	NOMINAL BORE			L	L1	D
		DASH	INCH	DN			
*ASAF46-24-24	1.1/2" BSP	24	1.1/2	38	89	19	42
ASAF46-32-32	2" BSP	32	2	51	84	23	56
ASAF46-40-40	2.1/2" BSP	40	2.1/2	63	108	27	76

\* Seal Fitted to Male End

All dimensions in mm

# NPTF MALE - FLUSHFIT FIXED FEMALE ADAPTOR

## SERIES ASAF50

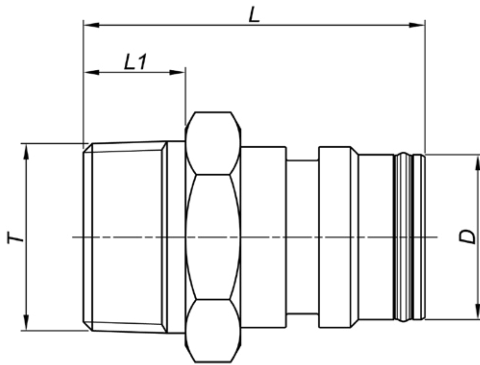


PART REF	THREAD (T)	NOMINAL BORE			L	L1	D
		DASH	INCH	DN			
*ASAF50-24-24	1.1/2" NPTF	24	1.1/2	38	80	26	70
ASAF50-32-32	2" NPTF	32	2	51	75	26	76
ASAF50-40-40	2.1/2" NPTF	40	2.1/2	63	88	29	106

\* Seal Fitted to Male End

# NPTF MALE - STAPLE MALE ADAPTOR

## SERIES ASAF56



PART REF	THREAD (T)	NOMINAL BORE			L	L1	D
		DASH	INCH	DN			
*ASAF56-24-24	1.1/2" NPTF	24	1.1/2	38	87	26	42
ASAF56-32-32	2" NPTF	32	2	51	82	26	56
ASAF56-40-40	2.1/2" NPTF	40	2.1/2	65	113	39	76

\* Seal Fitted to Male End

PORT CONNECTOR  
STUD ENDS  
98

All dimensions in mm

## Staple Ball Valves

To compliment the staple adaptor programme, Manuli Hydraulics has an extensive range of male and female staple ball valves, available with swivel females or the cost effective compact fixed female option.

Ball valves are supplied with various handle styles including a lockable safety handle.

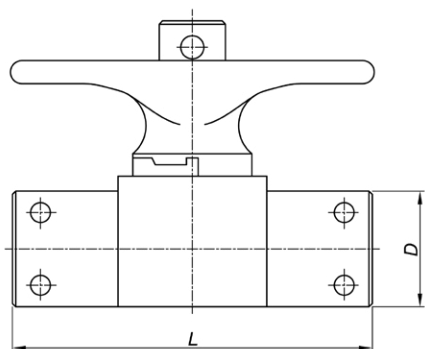
In addition to the popular two-way design, alternative 3 and 4-way configurations can also be supplied.

Staple ball valves are available from DN6 (1/4") to DN63 (2-1/2").



# STANDARD STAPLE FEMALE - FEMALE

SERIES ASAV01

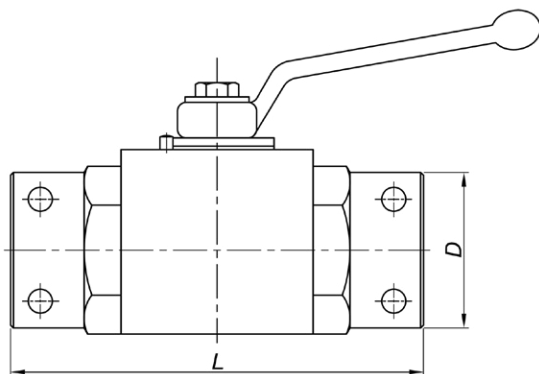


PART REF	NOMINAL BORE			PRESSURE		DIMENSIONS	
	DASH	INCH	DN	P.S.I.	BAR	L	D
ASAV01-06-6	6	3/8	10	7220	500	100	30
ASAV01-08-6	8	1/2	12	7220	500	100	35
ASAV01-12-6	12	3/4	20	7220	500	130	40

Alternative handle options: 1,2,5

# STANDARD STAPLE FEMALE - FEMALE

SERIES ASAV01



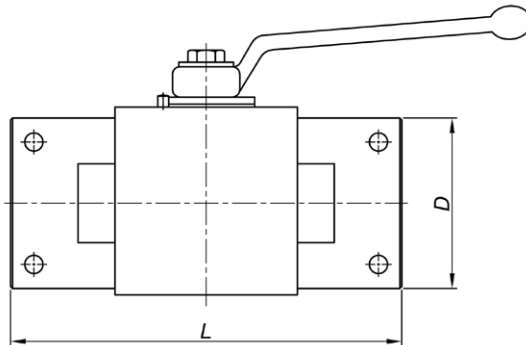
PART REF	NOMINAL BORE			PRESSURE		DIMENSIONS	
	DASH	INCH	DN	P.S.I.	BAR	L	D
ASAV01-16-1	16	1	25	5770	400	164	55
ASAV01-20-1	20	1.1/4	31	4330	300	164	60

Alternative handle options: 3,5,6

All dimensions in mm

# STANDARD STAPLE FEMALE - FEMALE

## SERIES ASAV01

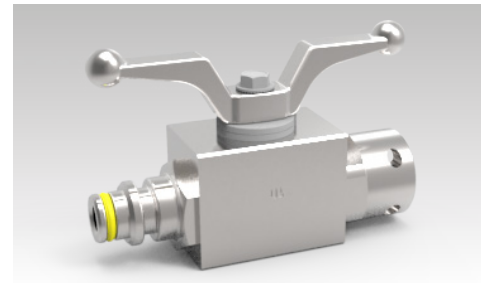
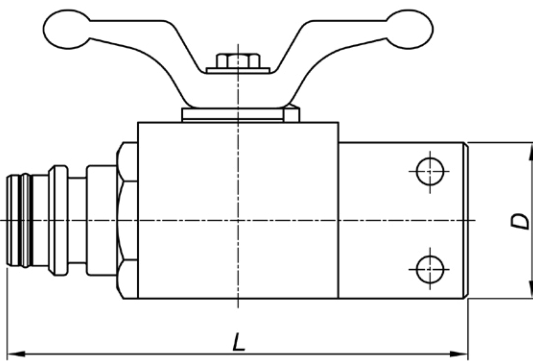


PART REF	NOMINAL BORE			PRESSURE		DIMENSIONS	
	DASH	INCH	DN	P.S.I.	BAR	L	D
ASAV01-24-1	24	1.1/2	38	3625	250	190	75
ASAV01-32-1	32	2	51	2900	200	195	85

Handle options: 1PL

# STANDARD STAPLE MALE - FIXED FEMALE

## SERIES ASAV31F



PART REF	NOMINAL BORE			PRESSURE		DIMENSIONS	
	DASH	INCH	DN	P.S.I.	BAR	L	D
ASAV31F-06-2	6	3/8	10	7220	500	100	30
ASAV31F-08-2	8	1/2	12	7220	500	100	35
ASAV31F-12-2	12	3/4	19	7220	500	130	40

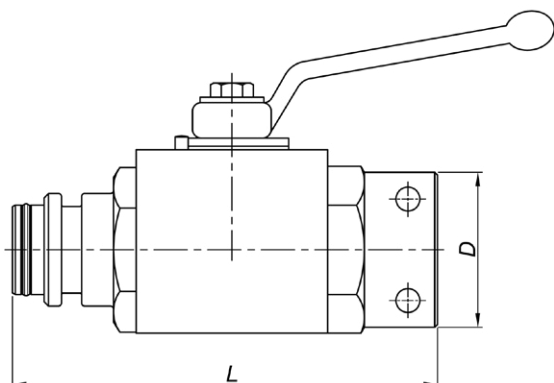
Alternative handle options: 1,5,6

All dimensions in mm



# STANDARD STAPLE MALE - FIXED FEMALE

SERIES ASAV31F

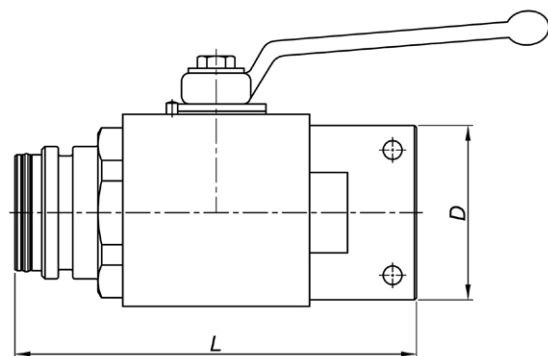


PART REF	NOMINAL BORE			PRESSURE		DIMENSIONS	
	DASH	INCH	DN	P.S.I.	BAR	L	D
ASAV31F-16-1	16	1	25	5770	400	164	55
ASAV31F-20-1	20	1.1/4	31	4330	300	164	60

Alternative handle options: 3,5,6

# STANDARD STAPLE MALE - FIXED FEMALE

SERIES ASAV31F

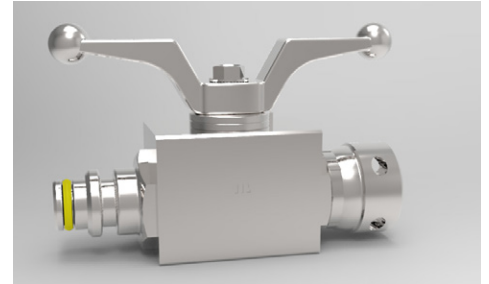
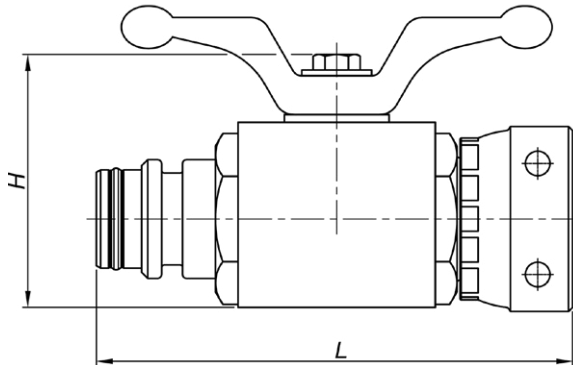


PART REF	NOMINAL BORE			PRESSURE		DIMENSIONS	
	DASH	INCH	DN	P.S.I.	BAR	L	D
ASAV31F-24-1	24	1.1/2	38	3625	250	195	75
ASAV31F-32-1	32	2	51	2900	200	195	85

Handle options: 1PL

# STANDARD STAPLE MALE - SWIVEL FEMALE

SERIES ASAV31

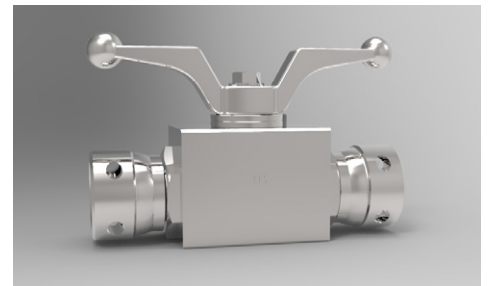
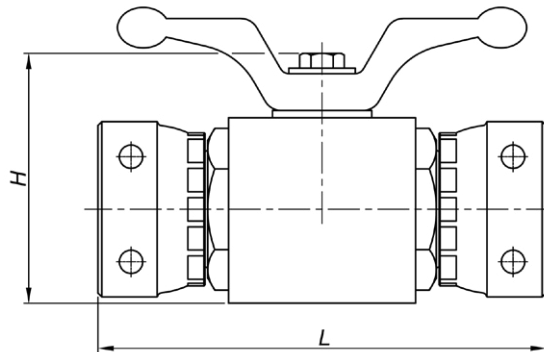


PART REF	NOMINAL BORE			PRESSURE		DIMENSIONS	
	DASH	INCH	DN	P.S.I.	BAR	L	H
ASAV31-04-2	4	1/4	06	7220	500	90	50
ASAV31-06-2	6	3/8	10	7220	500	108	56
ASAV31-08-2	8	1/2	12	7220	500	111	56
ASAV31-12-2	12	3/4	19	7220	500	116	66
ASAV31-16-2	16	1	25	5770	400	151	88
ASAV31-20-2	20	1.1/4	31	4330	300	149	88

Alternative handle options: 1,6

# STANDARD STAPLE SWIVEL FEMALE - SWIVEL FEMALE

SERIES ASAV11



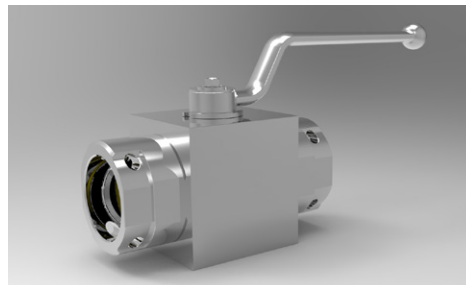
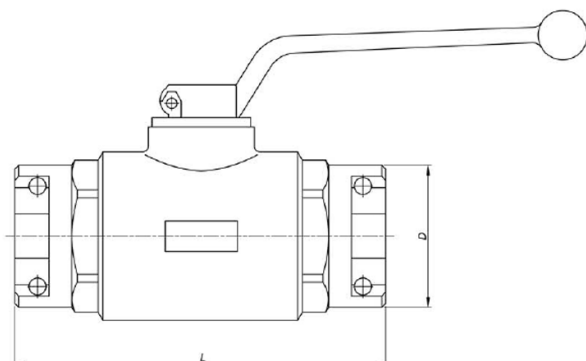
PART REF	NOMINAL BORE			PRESSURE		DIMENSIONS	
	DASH	INCH	DN	P.S.I.	BAR	L	H
ASAV11-04-2	4	1/4	06	7220	500	104	50
ASAV11-06-2	6	3/8	10	7220	500	105	56
ASAV11-08-2	8	1/2	12	7220	500	117	56
ASAV11-12-2	12	3/4	19	7220	500	114	66
ASAV11-16-2	16	1	25	5770	400	152	88
ASAV11-20-2	20	1.1/4	31	4330	300	145	88

Alternative handle options: 1,6

All dimensions in mm

# FLUSHFIT FEMALE - FEMALE

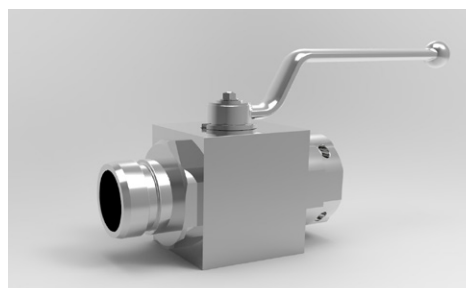
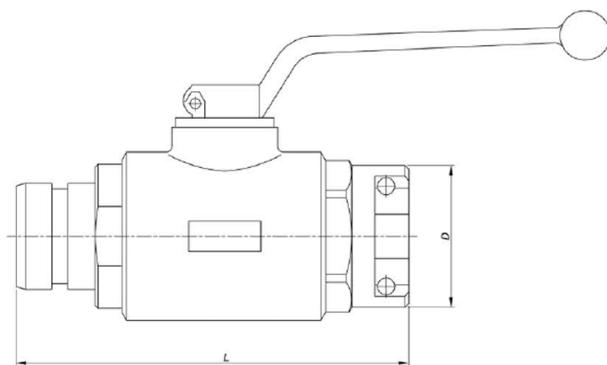
## SERIES ASAFV01



PART REF	NOMINAL BORE			PRESSURE		DIMENSIONS	
	DASH	INCH	DN	PSI	BAR	L	D
ASAFV01-32-1	32	2	51	2320	160	196	75
ASAFV01-40-1	40	2.1/2	63	2320	160	258	106

# FLUSHFIT MALE - FEMALE

## SERIES ASAFV31

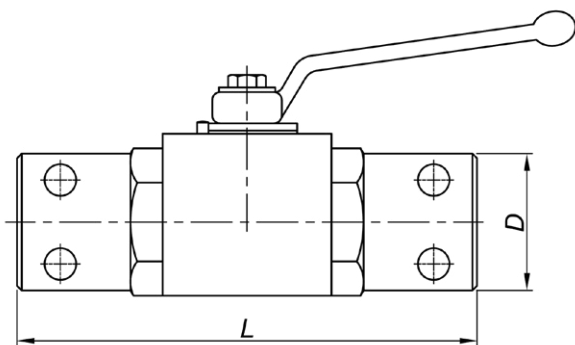


PART REF	NOMINAL BORE			PRESSURE		DIMENSIONS	
	DASH	INCH	DN	PSI	BAR	L	D
ASAFV31-32-1	32	2	51	2320	160	208	75
ASAFV31-40-1	40	2.1/2	63	2320	160	260	106



# HIGH PERFORMANCE STAPLE FEMALE - FEMALE

SERIES ASHV01

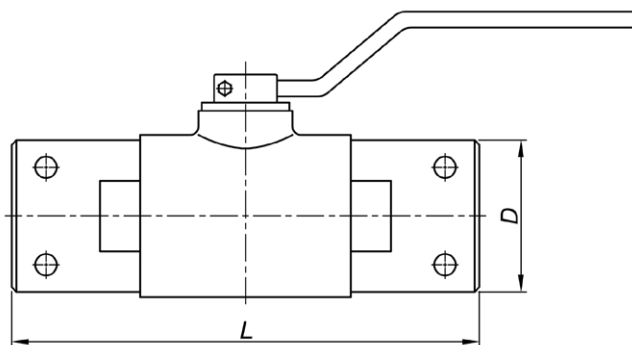


PART REF	NOMINAL BORE			PRESSURE		DIMENSIONS	
	DASH	INCH	DN	P.S.I.	BAR	L	D
ASHV01-12-1	12	3/4	20	7220	500	150	45
ASHV01-16-1	16	1	25	5770	400	195	60
ASHV01-20-1	20	1.1/4	31	5075	350	195	70

Handle options: 3,5,6

# HIGH PERFORMANCE STAPLE FEMALE - FEMALE

SERIES ASHV01



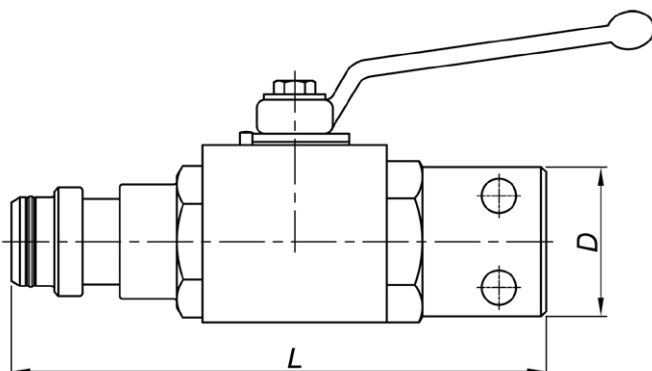
PART REF	NOMINAL BORE			PRESSURE		DIMENSIONS	
	DASH	INCH	DN	P.S.I.	BAR	L	D
ASHV01-24-1	24	1.1/2	38	5075	350	230	82
ASHV01-32-1	32	2	51	5075	350	260	95

Handle options: 1PL

All dimensions in mm

# HIGH PERFORMANCE STAPLE MALE - FEMALE

## SERIES ASHV31

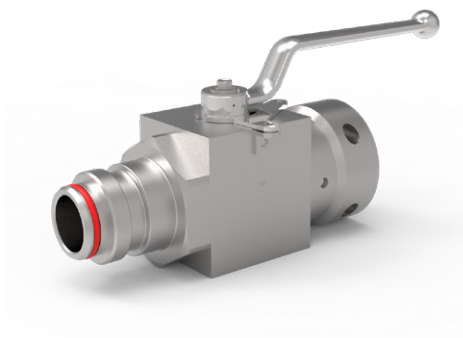
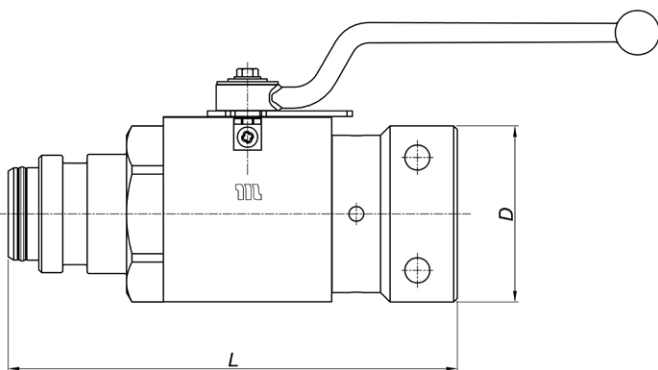


PART REF	NOMINAL BORE			PRESSURE		DIMENSIONS	
	DASH	INCH	DN	P.S.I.	BAR	L	D
ASHV31-12-1	12	3/4	20	7220	500	160	45
ASHV31-16-1	16	1	25	5770	400	205	60
ASHV31-20-1	20	1.1/4	31	5075	350	205	70

Handle options: 3,5,6

# HIGH PERFORMANCE STAPLE MALE - FEMALE

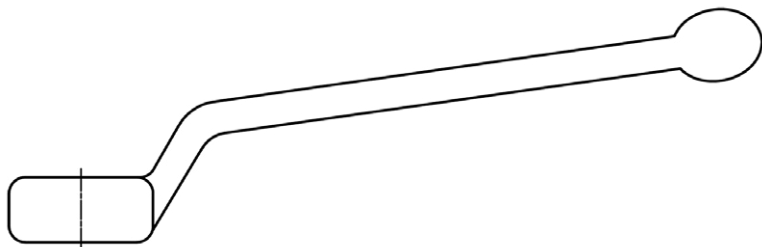
## SERIES ASHV31-1PL



PART REF	NOMINAL BORE			PRESSURE		DIMENSIONS	
	DASH	INCH	DN	P.S.I.	BAR	L	D
ASHV31-24-1PL	24	1.1/2 "	38	5075	350	230	80
ASHV31-32-1PL	32	2 "	51	5075	350	243	95

All dimensions in mm

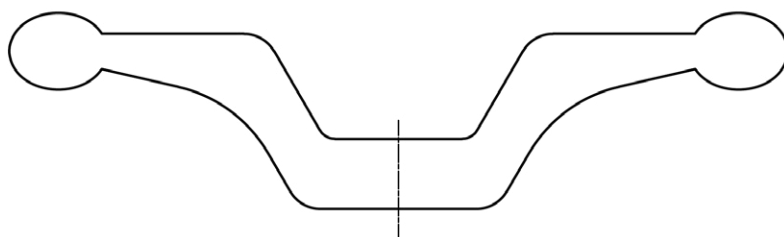
## BALL VALVE HANDLE OPTIONS



HANDLE DESCRIPTION	PART REF	
SINGLE	-1	-1L (LONG)
	-1XL (EXTRA LONG)	-1 PL (PADLOCK)

COLOURED HANDLES AVAILABLE ON REQUEST

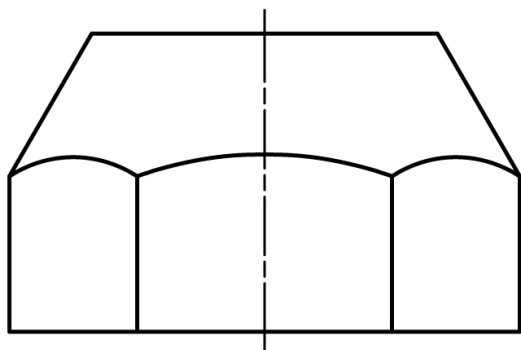
## BALL VALVE HANDLE OPTIONS



HANDLE DESCRIPTION	PART REF
DOUBLE	-2

COLOURED HANDLES AVAILABLE ON REQUEST

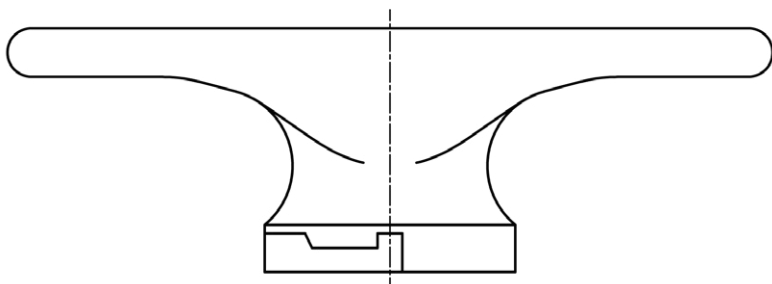
## BALL VALVE HANDLE OPTIONS



HANDLE DESCRIPTION	PART REF
HEXAGON	-3

COLOURED HANDLES AVAILABLE ON REQUEST

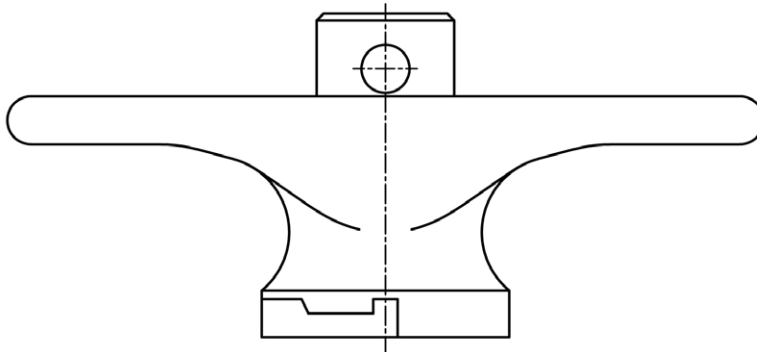
## BALL VALVE HANDLE OPTIONS



HANDLE DESCRIPTION	PART REF
SAFETY	-5

COLOURED HANDLES AVAILABLE ON REQUEST

# BALL VALVE HANDLE OPTIONS



HANDLE DESCRIPTION	PART REF
SAFETY PADLOCK	-6

COLOURED HANDLES AVAILABLE ON REQUEST

## INTRODUCTION TO THE MANULI HOSE RANGE

**The Manuli Hydraulics range of hydraulic hoses is a comprehensive selection of products aimed at supporting both general and speciality hydraulics applications in a wide range of environments. From construction and agriculture to mining, forestry and offshore, Manuli hoses are designed to meet and surpass the most demanding operational and environmental requirements, ensuring long life, high performance and reliable service.**

Manuli hoses are categorised according to our unique G.H.P. System, which helps users to identify the type of properties required for their specific applications.

The G.H.P. System for hydraulic hoses comprises the following 3 categories:

### GLOBAL STANDARD

Suitable for a wide variety of general hydraulic applications, the Global Standard range of hoses are designed to meet the requirements of various international norms, including ISO, BS, SAE and JIC. Featuring some of Manuli's most successful and widely used product lines, the Global Standard range offers high quality and reliability in most standard hydraulic applications.

**Note:** *Global Standard hoses are not recommended for heavy-duty, demanding applications such as underground mining and so do not feature in this catalogue*

### HI-GRADE

These hoses are designed to meet and exceed the international specifications, making them ideal for high performance products and harsh environments. Suited to both OEM and aftermarket maintenance these hoses are split into two sections according to the selection criteria across the range. As such the range comprises hoses which use traditional design methodologies where working pressure varies according to the hose size, and Isobaric hoses, where working pressure is constant across all sizes according to the specifications of ISO 18752.

### PREMIUM

A superior range of products designed for the utmost performance in specific applications, these hoses are designed to surpass expectations and requirements. Featuring some of the most advanced hose design on the market today, these products demonstrate what can be achieved when decades of experience, intelligent design and collaboration with industry leaders are brought seamlessly together. Many of the hoses in this range have advanced properties or are designed to resist specific environmental challenges.



## MANULI COVER TECHNOLOGY

Choosing the correct hydraulic hose for the job requires careful consideration. The widespread use of hydraulics in a variety of industries and environments means that characteristics such as robustness, flexibility, chemical resistance and operating temperature must all be considered.

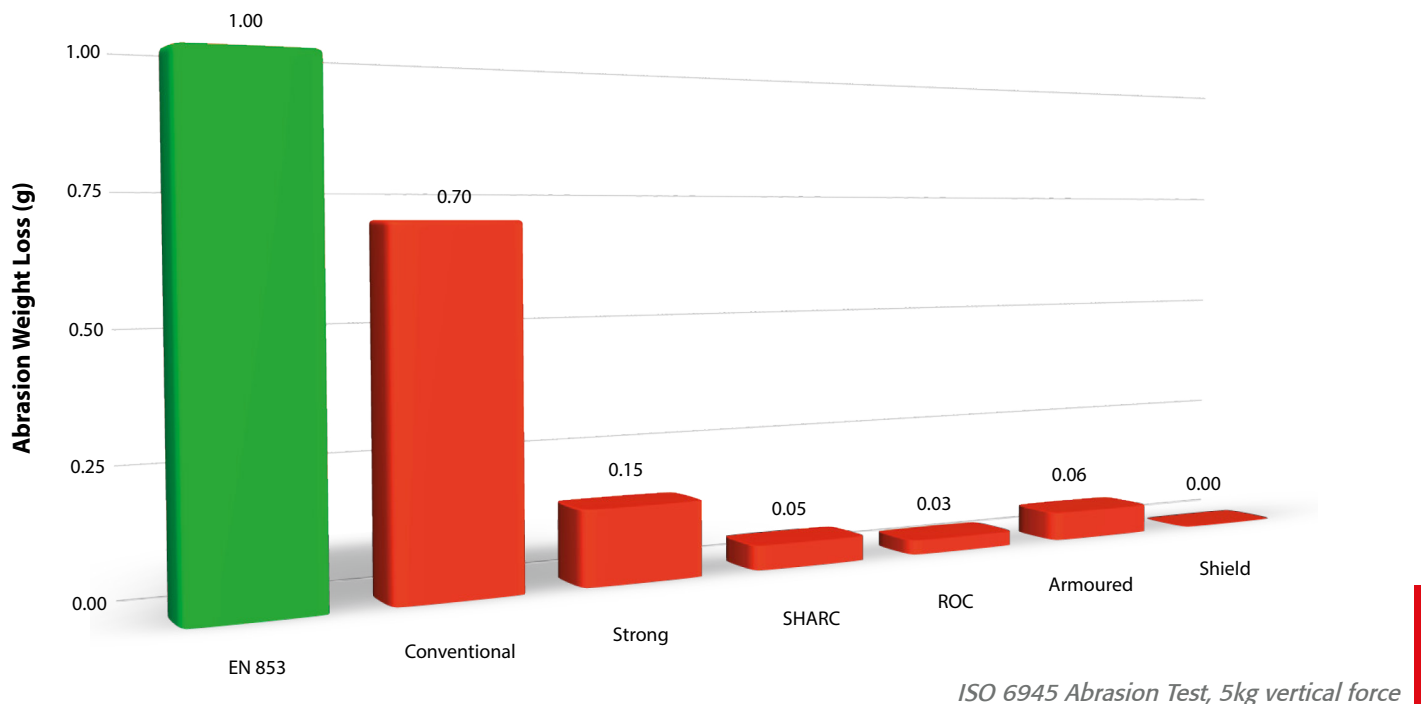
However, most experts agree that the hose cover is the singular most important part of a hose’s construction, as wear of the cover due to environmental factors is the primary cause of hose failure. It is therefore critical that the hose cover be as robust and long-lasting as it can be, whilst also meeting the other specific requirements of the system it is included in.

Manuli Hydraulics has developed a range of highly innovative and proprietary cover materials and structures to ensure maximum service life in even the most harsh of environmental conditions. The outstanding performance of our cover materials compared to many of our competitors’ products illustrates the fact that, whilst hose selection itself may be complex, making sure you choose the right cover need not be.

Progressively developed over several years and multiple hose families, the Manuli Hydraulics range of hose cover solutions is many and varied. Aside from certain application-specific covers dedicated to unique hose families, Manuli offers 6 fundamental hose cover types:

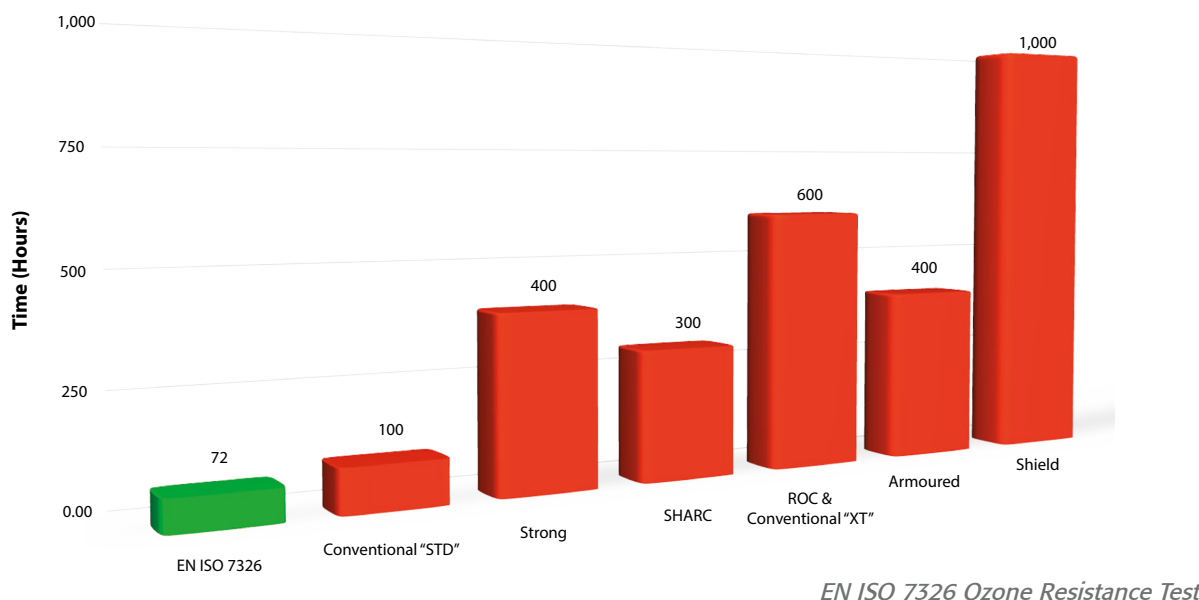
- **Conventional Cover** - "STD" & "XT" Type
- **Strong Cover** - "SD" & "SC" Type
- **Super High Abrasion Resistant Cover (SHARC)**
- **Rubber Outstanding Cover (ROC.)**
- **Armoured Cover**
- **Shield Cover**

The relative abrasion resistance performance of each of these cover types compared to EN 853 can be assessed from the below graph:



In addition to their outstanding performance against abrasion, these covers also boast a high level of resistance to cracking due to ozone exposure. The general rule of thumb is that abrasion resistance and ozone resistance for a cover compound are inversely proportional. So high abrasion resistance leads to poor ozone resistance, and vice versa.

However, in contrast to these typical material limitations, each of the above Manuli cover compounds performs noticeably better than the required test specification, EN ISO 7326.



## CONVENTIONAL COVER

As Manuli's base-line cover compound, the Conventional Cover is fully compliant to current international specifications for both abrasion and ozone resistance.

Used primarily on the classic Manuli hose ranges, such as **Tractor**, this cover is robust enough for most general hydraulic applications where excessive abrasion or ozone exposure is not expected.

With a working temperature range of -40°C to +100°C, hoses with the Conventional Cover are prime examples of the perfect balance between reliability, toughness and value.

**"XT" Type** - The Conventional Cover is also used as the basis for the "XT" type covers used on premium hose ranges such as **Equator**. In these cases, the abrasion resistance characteristic remain consistent with the Conventional Cover, but the covers have significantly upgraded ozone resistance and an extended operational temperature range of -55°C to +135°C.

## STRONG COVER

As the first major performance step change in both abrasion and ozone resistance, the Strong Cover outperforms the Conventional Cover four times over in these areas. It is for this reason that two of Manuli's core product families, **RockMaster** and **GoldenIso** (except AntiWear) use this cover type.

The Strong Cover comes in two types:

**"SD" Type** - Used on the majority of **RockMaster** products, the "SD" cover has a minimum working temperature of -40°C.

**"SC" Type** - Used on the new **Cryoflex** range, the "SC" cover compound has an extreme resistance to low temperatures, allowing it to remain flexible down to -60°C.



## SUPER HIGH ABRASION RESISTANT COVER - SHARC

Developed as a high-protection cover, the SHARC solution provides abrasion and weathering resistance to a standard which makes it ideal for all but the most extreme of applications.

Used on the **GoldenIso AntiWear** and **Xtraflow** hydraulic hose ranges, the SHARC solution ensures long lasting, reliable hose protection in some of the toughest operational environments.

The SHARC solution also has high fire resistance and anti-static properties, making it suitable for use in highly regulated applications such as mining and offshore drilling.

## RUBBER OUTSTANDING COVER - ROC

Specifically designed for extreme abrasion and weathering resistance on heavy duty hoses, the ROC solution easily out-performs all but the toughest and most resilient hose cover solutions.

Used on the newly released **RockMaster/2 Plus Super-AntiWear** hose family and within the new **ForeMaster** range, the ROC solution has already proven itself to be a superb investment for use in the harshest of environmental conditions.

Once again, a high fire and anti-static resistance, coupled with an ability to function at very low temperatures, makes the ROC solution a highly versatile addition to the Manuli Hydraulics cover solutions range.

## ARMOURED COVER

The Armoured Cover is the culmination of years of research and development in both hose structural design and rubber compound formulation. This innovative new cover is made up of two fundamental elements:

- Outer cover made from a proprietary, specially formulated anti-wear rubber compound
- High-tensile textile breaker layer

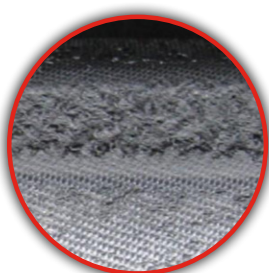
The Armoured Cover is currently used on the higher pressure hose lines within the **ForeMaster** range of hoses.

### Putting it to the test

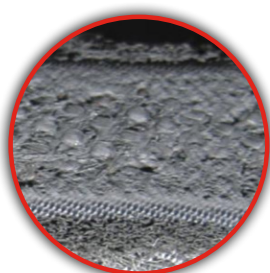
In standard ISO 6945 abrasion tests a reciprocating 5kg load is used to create wear on the hose cover. The test lasts for 2,000 cycles and measures the mass of material lost. The lower the result, the better the performance.

However, to truly test the performance of the Armoured Cover, Manuli devised a more severe test. A 10kg reciprocating load was used, and the number of cycles required to expose the steel reinforcement was determined. In this case, the higher the result, the better the performance.

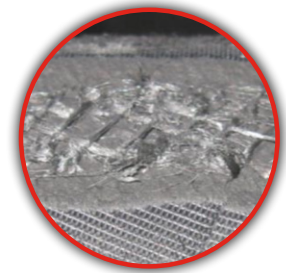
**Whilst hoses with the Armoured Cover performed up to 4 times better than the competition in standard ISO 6945 abrasion tests, they lasted as much as 30 times longer before the steel reinforcement was exposed.**



2,000 cycles (10kg)

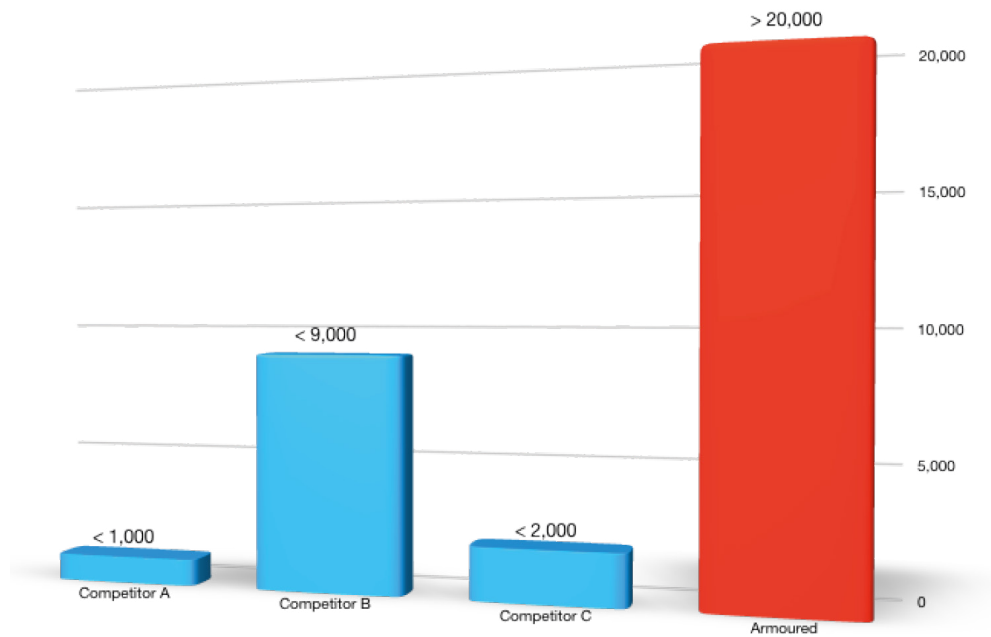


20,000 cycles (10kg)



60,000 cycles (10kg)

### Number of Cycles Before Reinforcement Exposure



*Modified ISO 6945 Abrasion Test, 10kg vertical force*

## SHIELD COVER

The Shield Cover solution is designed for maximum hose to hose abrasion and weathering resistance in none friction-flexing and non-impact applications.

Used throughout the **ShieldMaster** hose family and comprising a robust synthetic rubber layer with an additional ultra-high molecular weight polyethylene (UHMWPE) outer skin, the Shield Cover outperforms all other Manuli cover types in its resistance to both abrasion and ozone.

In fact the abrasion resistance of the Shield Cover is so great that under standard ISO 6945 test conditions it is necessary to perform around 1 million cycles to register a discernible weight loss.

The self-lubricating properties of UHMWPE make the Shield Cover perfect for situations where bunches of hoses rub against each other, and the smooth cover finish provides an easy-to-clean alternative to spring guards.

In addition to its outstanding abrasion and weathering resistance, the Shield Cover also resists cracking down to -46°C and has flame retardant and anti-static properties, making it suitable for use in even the harshest environments.

WHERE ARE THE COVERS USED?

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
DIAMONDSPIR							SD	SD	SD	SD	SD					
ROCKMASTER/12				SD	SD	SD	SD	SD	SD	SD	SD					
ROCKMASTER/13		SD		SD	SD		SD	SD	SD	SD	SD					
ROCKMASTER/15							SD	SD	SD	SD	SD					
ROCKMASTER/1SC		SD	SD	SD	SD	SD	SD	SD	SD	SD	SD			SD		
ROCKMASTER/1SN		SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD				
ROCKMASTER/2SC	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD		SD	SD		
ROCKMASTER/2SN		SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD				
ROCKMASTER/2ST	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD					
ROCKMASTER/4SH						SD	SD	SD	SD	SD	SD					
ROCKMASTER/4SP		SD		SD	SD	SD	SD	SD	SD	SD	SD					
DIAMONDSPIR/14														SC		
DIAMONDSPIR/17														SC	SC	
DIAMONDSPIR/21													SC	SC		
DIAMONDSPIR/35													SC	SC		
GOLDENISO/38 LONGLIFE							SC	SC	SC	SC	SC					
GOLDENISO/45 LONGLIFE		SC			SD	SD	SD	SD								
GOLDENISO/14 PILOT		SC	SC	SC	SC											
GOLDENISO/21 XTRAFLEX									SC	SC	SC					
GOLDENISO/28 XTRAFLEX				SC	SC	SC	SC	SC	SC	SC	SC					
GOLDENISO/35 XTRAFLEX				SC	SC	SC	SC	SC	SC	SC	SC					
GOLDENISO/42 XTRAFLEX		SC		SC	SC	SC	SC	SC	SC	SC						
GOLDENMINE													SC			
HERCULES/HT									SC	SC	SC					
INFINITY		SC	SC	SC	SC	SC	SC	SC								
GOLDENISO/21 ANTIWEAR																
GOLDENISO/28 ANTIWEAR																
XTRAFLOW/2WB																
XTRAFLOW/4WS																
XTRAFLOW/HT													XT	XT	XT	
ROCKMASTER/2 PLUS SUPER-AW																
SHIELDMASTER/21																
SHIELDMASTER/28																
SHIELDMASTER/35																
SHIELDMASTER/42																

CONVENTIONAL

STRONG

SHARC

ROC

ARMOURED

SHIELD

RANGE	HOSE	HOSE STRUCTURE	NORM	KEY PERFORMANCE	PAGE
HI-GRADE ISOBARIC HOSES	DIAMONDSPIR/14	WIRE SPIRALLED	MANULI DESIGN, ISO 18752-C EXT.	HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE	133
	DIAMONDSPIR/17	WIRE SPIRALLED	MANULI DESIGN, ISO 18752-C EXT.	HIGH FLOW RATES, OUTSTANDING POWER TRANSMISSION	134
	DIAMONDSPIR/21	WIRE SPIRALLED	MANULI DESIGN, ISO 18752-C EXT.	VERY HIGH HYDRAULIC POWER TRANSMISSION	135
	DIAMONDSPIR/35	WIRE SPIRALLED	MANULI DESIGN, ISO 18752-C EXT.	VERY HIGH HYDRAULIC POWER TRANSMISSION	136
	GOLDENISO/21 ANTIWEAR	WIRE BRAIDED	ISO 18752-A, ISO 11237-R17, SAE J517-100R17	EXTREME ABRASION RESISTANCE	121
	GOLDENISO/28 ANTIWEAR	WIRE BRAIDED	ISO 18752-A, ISO 11237-R19, SAE J517-100R19	EXTREME ABRASION RESISTANCE	122
	GOLDENISO/38 LONGLIFE	WIRE SPIRALLED	ISO 18752-C/D	HIGH FATIGUE RESISTANCE	127
	GOLDENISO/45 LONGLIFE	WIRE SPIRALLED	ISO 18752-D EXT., ISO 11237-R15, SAE J517-100R15	HIGH FATIGUE RESISTANCE	128
	GOLDENISO/21 XTRAFLEX	WIRE SPIRALLED	ISO 18752-C/D, JIS K6349	EXTREME FLEXIBILITY	123
	GOLDENISO/28 XTRAFLEX	WIRE SPIRALLED	ISO 18752-C/D, JIS K6349	EXTREME FLEXIBILITY	124
	GOLDENISO/35 XTRAFLEX	WIRE SPIRALLED	ISO 18752-C/D, JIS K6349	EXTREME FLEXIBILITY	125
	GOLDENISO/42 XTRAFLEX	WIRE SPIRALLED	ISO 18752-C/C PLUS	EXTREME FLEXIBILITY	126
	SHIELDMASTER/21	WIRE BRAIDED	ISO 18752-B	OUTSTANDING WEAR RESISTANCE	129
	SHIELDMASTER/28	WIRE BRAIDED AND SPIRALLED	ISO 18752-B	OUTSTANDING WEAR RESISTANCE	130
	SHIELDMASTER/35	WIRE BRAIDED AND SPIRALLED	ISO 18752-B	OUTSTANDING WEAR RESISTANCE	131
	SHIELDMASTER/42	WIRE BRAIDED AND SPIRALLED	ISO 18752-B	OUTSTANDING WEAR RESISTANCE	132

RANGE	HOSE	HOSE STRUCTURE	NORM	KEY PERFORMANCE	PAGE
HI-GRADE TRADITIONAL HOSES	DIAMONDSPIR	WIRE SPIRALLED	MANULI DESIGN, EXCEEDS ISO 3862-R15, SAE J517-100R15	VERY HIGH PRESSURE RATING	149
	INFINITY	WIRE BRAIDED	EN 857 2SC; ISO 11237-2SC; SAE J517 TYPE 100 R16	HIGH SERVICE LIFE & RELIABILITY	148
	ROCKMASTER/1SC	WIRE BRAIDED	EN 857, ISO 11237-1SC	ABRASION, WEATHER & HEAT RESISTANCE	137
	ROCKMASTER/2SC	WIRE BRAIDED	EN 857, ISO 11237-2SC, SAE J517-100R16	ABRASION, WEATHER & HEAT RESISTANCE	138
	ROCKMASTER/1SN	WIRE BRAIDED	EN 853, ISO 1436-1SN, SAE J517-100R1AT	ABRASION, WEATHER & HEAT RESISTANCE	139
	ROCKMASTER/2SN	WIRE BRAIDED	EN 853, ISO 1436-2SN, SAE J517-100R2AT	ABRASION, WEATHER & HEAT RESISTANCE	140
	ROCKMASTER/2ST	WIRE BRAIDED	EN 853, ISO 1436-2ST	ABRASION, WEATHER & HEAT RESISTANCE	141
	ROCKMASTER/2 PLUS SUPER ANTI-WEAR	WIRE BRAIDED	MANULI DESIGN, EN 853-2SN; SAE J517 TYPE 100R2AT. PERFORMANCE BCS 174; ISO 6805 TYPE 4	ABRASION, WEATHER & HEAT RESISTANCE	142
	ROCKMASTER/4SH	WIRE SPIRALLED	EN 856, ISO 3862-4SH	ABRASION, WEATHER & HEAT RESISTANCE	143
	ROCKMASTER/4SP	WIRE SPIRALLED	EN 856, ISO 3862-4SP	ABRASION, WEATHER & HEAT RESISTANCE	144
	ROCKMASTER/12	WIRE SPIRALLED	EN 856, ISO 3862-R12, SAE J517-100R12	ABRASION, WEATHER & HEAT RESISTANCE	145
	ROCKMASTER/13	WIRE SPIRALLED	EN 856, ISO 3862-R13, SAE J517-100R13	ABRASION, WEATHER & HEAT RESISTANCE	146
	ROCKMASTER/15	WIRE SPIRALLED	ISO 3862-R15, SAE J517-100R15	ABRASION, WEATHER & HEAT RESISTANCE	147
	XTRAFLOW/2WB	WIRE BRAIDED	EXT. EN 857-2SC, ISO 11237-2SC	HIGH FLOW RATES, LOW PRESSURE DROPS	150
	XTRAFLOW/4WS	WIRE SPIRALLED	MANULI DESIGN	HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE	151
	XTRAFLOW/HT	WIRE BRAIDED	MANULI DESIGN	HIGH TEMPERATURE, SUCTION AND RETURN LINES	152
	XTRAFLOW/HTEX	WIRE BRAIDED	MANULI DESIGN	HIGH TEMPERATURE, SUCTION AND RETURN LINES	153

PREMIUM HOSES	FIREND	WIRE BRAIDED	EN 853, ISO 1436-1SN, SAE J517-100R1AT	FIRE SUPPRESSION SYSTEMS	156
	GOLDENMINE	WIRE SPIRALLED	MT/T 98	VERY HIGH HYDRAULIC POWER TRANSMISSION IN COAL MINES (CHINA)	157
	HERCULES/HT	WIRE SPIRALLED	ISO 18752-D EXT., EXCEEDS SAE J517 R15	HEAVY DUTY FOR GIANT EQUIPMENT	155

HOSE SIZE	WORKING PRESSURE (bar)																			
	5	6	8	10	12	16	19	22	25	28	31	35	38	46	51	60	63	76	89	102
	dash	-03	-04	-05	-06	-08	-10	-12	-16	-16	-20	-20	-24	-24	-32	-32	-38	-40	-48	-56
DIAMONDSPIR							560		560			525		475		420				
DIAMONDSPIR/14																			140	
DIAMONDSPIR/17																		170	170	
DIAMONDSPIR/21																	210	210		
DIAMONDSPIR/35																	350	350		
DIAMONDSPIR/62											621									
FIREND		225		180	160		105		88											
GOLDENISO/21 ANTIWEAR	210	210	210	210	210	210	210		210											
GOLDENISO/28 ANTIWEAR		280	280	280	280	280	280													
GOLDENISO/38 LONGLIFE							380		380		380									
GOLDENISO/45 LONGLIFE		460				460	460		460		450		450							
GOLDENISO/21 XTRAFLEX											210		210		210					
GOLDENISO/28 XTRAFLEX				280	280	280	280		280		280		280		280					
GOLDENISO/35 XTRAFLEX				350	350	350	350		350		350		350		350					
GOLDENISO/42 XTRAFLEX		420		420	420	420	420		420		420		420		420					
GOLDENMINE																	350			
HERCULES/HT											420		420		420					
INFINITY		450	400	400	360	320	320		225											
ROCKMASTER/1SC		260	250	225	190	150	150		110		75		50		50					
ROCKMASTER/2SC	420	400	350	330	275	250	245		210		140		100		90		70	45		
ROCKMASTER/1SN		225	215	180	160	130	105		90		65		50		40	50				
ROCKMASTER/2SN		400	350	350	350	250	215		175		140		100		90	90				
ROCKMASTER/2ST	415	400	350	350	350	250	215		175		140		100		90					
ROCKMASTER/2 PLUS SUPER A/W		450		400	362	340	310		240		175		146		112			70		
ROCKMASTER/4SH					450	420	385		350		350		300		250					
ROCKMASTER/4SP		485		450	420	380	380		320		210		185		175					
ROCKMASTER/12				280	280	280	280		280		210		175		175					
ROCKMASTER/13		690		690	620		350		350		350		350		350					
ROCKMASTER/15							420		420		420		420							
SAFEMASTER/2SC		400	350	350	275	250	245		210											
SAFEMASTER/2SN		400	350	350	350	250	215		175		140		100							
SHIELDMASTER/21		210	210	210	210	210	210		210											
SHIELDMASTER/28		280	280	280	280	280	280		280		280									
SHIELDMASTER/35		350	350	350	350	350	350		350		350		350		350					
SHIELDMASTER/42		420		420	420		420		420		420		420		420					
XTRAFLOW/2WB																	105	80	35	
XTRAFLOW/4WS																	140	105	80	35
XTRAFLOW/HT																	35	35	35	
XTRAFLOW/HTEX																	35			

<b>MINING APPROVALS</b>				
	<b>MSHA</b>	<b>POLISH B-MARK</b>	<b>FRAS</b>	<b>MA-CHINA</b>
DIAMONDSPIR	YES	-	YES	DN 51: YES
DIAMONDSPIR/14	YES	-	YES	-
DIAMONDSPIR/17	YES	-	-	DN 76: YES
DIAMONDSPIR/21	YES	-	-	DN 63: YES
DIAMONDSPIR/35	YES	-	YES	DN 63: YES
FIREND	YES	-	-	-
GOLDENISO/21 ANTIWEAR	YES	-	YES	-
GOLDENISO/28 ANTIWEAR	YES	-	YES	-
GOLDENISO/21 XTRAFLEX	YES	-	YES	COMPLIANT PERFORMANCE
GOLDENISO/28 XTRAFLEX	YES	-	YES	COMPLIANT PERFORMANCE
GOLDENISO/35 XTRAFLEX	YES	YES	YES	COMPLIANT PERFORMANCE
GOLDENISO/42 XTRAFLEX	YES	YES	YES	COMPLIANT PERFORMANCE
GOLDENISO/38 LONGLIFE	YES	-	COMPLIANT PERFORMANCE	-
GOLDENISO/45 LONGLIFE	YES	-	COMPLIANT PERFORMANCE	-
GOLDENMINE	YES	-	-	YES
HERCULES/HT	YES	-	-	-
INFINITY	YES	-	APPROVAL PENDING	-
ROCKMASTER/12	YES	-	YES	YES
ROCKMASTER/13	YES	YES	YES	YES
ROCKMASTER/15	YES	YES	YES	YES
ROCKMASTER/1SN	YES	-	YES	YES
ROCKMASTER/2SC	YES	YES	YES	YES
ROCKMASTER/2SN	YES	YES	YES	YES
ROCKMASTER/4SH	YES	YES	YES	YES
ROCKMASTER/4SP	YES	YES	YES	YES
ROCKMASTER/2 PLUS SAW	YES	-	APPROVAL PENDING	YES
SHIELDMASTER/21	YES	-	APPROVAL PENDING	-
SHIELDMASTER/28	YES	-	APPROVAL PENDING	-
SHIELDMASTER/35	YES	-	APPROVAL PENDING	-
SHIELDMASTER/42	YES	-	APPROVAL PENDING	-
XTRAFLOW/2WB	YES	-	YES	DN 63 & 76: YES
XTRAFLOW/4WS	YES	-	COMPLIANT PERFORMANCE	-
XTRAFLOW/HT	YES	-	-	-



**GLOBAL STD. ● HI-GRADE ● PREMIUM**



# GOLDENISO/21 ANTIWEAR

OUTSTANDING ABRASION RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01125A05*	5	-3	3/16"	9.1	0.36	11.1	0.44	210	3,040	840	12,180	45	1.77	170	0.11	MF+M03300-03	OPF-03
H01125006*	6	-4	1/4"	10.2	0.40	12.0	0.47	210	3,040	840	12,180	50	1.97	180	0.12	MF+M03300-04	OPF-04
H01125008*	8	-5	5/16"	11.5	0.45	13.6	0.54	210	3,040	840	12,180	55	2.17	210	0.14	MF+M03300-05	OPF-05
H01125010*	10	-6	3/8"	14.4	0.57	16.2	0.64	210	3,040	840	12,180	65	2.56	300	0.20	MF+M03400-06	OPF-06
H01125012*	12	-8	1/2"	17.9	0.70	19.7	0.78	210	3,040	840	12,180	90	3.54	415	0.28	MF+M03400-08	OPF-08
H01125016*	16	-10	5/8"	22.2	0.87	24.0	0.94	210	3,040	840	12,180	100	3.94	620	0.42	MF+M03400-10	OPF-10
H01125019*	19	-12	3/4"	25.6	1.01	27.7	1.09	210	3,040	840	12,180	120	4.72	780	0.52	MF+M03400-12	OPF-12
H01125025*	25	-16	1"	33.0	1.30	35.2	1.39	210	3,040	840	12,180	150	5.91	1,120	0.75	MF+M03400-16	OPF-16

## KEY FEATURES

- Extreme abrasion resistance
- Very low bend radius to suit restricted space installations
- High robust and compact hose structure compared to rated pressure
- Approved at 200.000 impulse cycles, at T=100°C (ISO 18752 grade A)
- High environmental agents resistance
- Vacuum resistance accordingly to SAE 100R4 requirements

## APPLICATIONS & FLUIDS

- Medium and high pressure hydraulic lines with installation constraints, pilot lines, return, drain and suction lines
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

## TUBE

Synthetic rubber

## REINFORCEMENT

One wire braid (DN 5-12). Two wire braid (DN 16-25)

## COVER

S.H.A.R.C.

Synthetic rubber with very high abrasion, ozone and weather resistance

## APPLICABLE SPECS

ISO 18752 grade A; SAE J517 Type 100 R17; ISO 11237-R17

## TYPE APPROVALS

CU-TR; MSHA; FRAS; DNV-GL(MED)

# GOLDENISO/28 ANTIWEAR

OUTSTANDING ABRASION RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01126006*	6	-4	1/4"	11.6	0.46	13.2	0.52	280	4,060	1,120	16,240	50	1.97	260	0.17	MF+M03400-04	OPF-04
H01126008*	8	-5	5/16"	12.9	0.51	14.5	0.57	280	4,060	1,120	16,240	55	2.17	280	0.19	MF+M03400-05	OPF-05
H01126010*	10	-6	3/8"	15.4	0.61	17.0	0.67	280	4,060	1,120	16,240	63	2.48	380	0.26	MF+M03400-06	OPF-06
H01126012*	12	-8	1/2"	18.5	0.73	20.3	0.80	280	4,060	1,120	16,240	80	3.15	495	0.33	MF+M03400-08	OPF-08
H01126016*	16	-10	5/8"	22.7	0.89	24.7	0.97	280	4,060	1,120	16,240	90	3.54	730	0.49	MF+M03400-10	OPF-10
H01126019*	19	-12	3/4"	27.1	1.07	29.3	1.15	280	4,060	1,120	16,240	120	4.72	1,060	0.71	MF+M03400-12	OPK-12

### KEY FEATURES

- Extreme abrasion resistance
- Very low bend radius to suit restricted space installations
- High robust and compact hose structure compared to rated pressure
- Approved at 200.000 impulse cycles, at T=100°C (ISO 18752 grade A)
- High environmental agents resistance
- Vacuum resistance accordingly to SAE 100R4 requirements

### APPLICATIONS & FLUIDS

- Medium and high pressure hydraulic lines with installation constraints, pilot lines, return, drain and suction lines
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Synthetic rubber

### REINFORCEMENT

Two wire braids

### COVER

S.H.A.R.C.  
Synthetic rubber with very high abrasion, ozone and weather resistance

### APPLICABLE SPECS

ISO 18752 grade A; SAE J517 Type 100R19

### TYPE APPROVALS

CU-TR; MSHA; FRAS; DNV-GL; DNV-GL(MED)

# GOLDENISO/21 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10093031*	31	-20	1.1/4"	41.7	1.64	44.5	1.75	210	3,040	840	12,180	210	8.27	2,071	1.39	MF+M00920-20	OPK-20
H10093038*	38	-24	1.1/2"	48.9	1.93	52.1	2.05	210	3,040	840	12,180	260	10.24	2,989	2.01	IP+M01500-24	SP+M05400-24
H10093051*	51	-32	2"	63.2	2.49	66.8	2.63	210	3,040	840	12,180	330	12.99	4,311	2.90	IP+M01500-32	SP+M05400-32

## KEY FEATURES

- Bend radius which exceeds the standard requirements by -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 Grade D (with skive / double-skive fittings)
- Weight saving vs traditional R12 hose construction, despite the higher working pressure of the GoldenISO Xtraflex range
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- Medium pressure hydraulic lines for general hydraulics
- Return lines of hydraulic systems
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

4 high tensile steel spirals

## COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

ISO 18752-C/D; JIS K6349-3

## TYPE APPROVALS

CU-TR; MSHA; FRAS; ABS; BV; LR; DNV-GL(MED); NK; B

# GOLDENISO/28 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10095010*	10	-6	3/8"	16.7	0.66	18.9	0.74	280	4,060	1,120	16,240	65	2.56	520	0.35	MF+M00910-06	OPK-06
H10095012*	12	-8	1/2"	19.6	0.77	21.8	0.86	280	4,060	1,120	16,240	90	3.54	650	0.44	MF+M00910-08	OPK-08
H10095016*	16	-10	5/8"	23.5	0.93	25.7	1.01	280	4,060	1,120	16,240	100	3.94	934	0.63	MF+M00910-10	OPK-10
H10095019*	19	-12	3/4"	26.9	1.06	29.3	1.15	280	4,060	1,120	16,240	120	4.72	1,040	0.70	MF+M00920-12	OPK-12
H10095025*	25	-16	1"	34.1	1.34	36.5	1.44	280	4,060	1,120	16,240	150	5.91	1,530	1.03	MF+M00930-16	OPK-16
H10095031*	31	-20	1.1/4"	41.7	1.64	44.5	1.75	280	4,060	1,120	16,240	210	8.27	2,160	1.45	MF+M00920-20	OPK-20
H10095038*	38	-24	1.1/2"	48.9	1.93	52.1	2.05	280	4,060	1,120	16,240	280	11.02	2,994	2.01	IP+M01500-24	SP+M05400-24
H10095051*	51	-32	2"	63.9	2.52	67.5	2.66	280	4,060	1,120	16,240	350	13.78	4,633	3.11	IP+M01500-32	SP+M05400-32

## KEY FEATURES

- Bend radius which exceeds the standard requirements by - 30% to -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 Grade D (with skive / double-skive fittings)
- Weight saving of 20% vs traditional R12 hose construction
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

4 high tensile steel spirals

## COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

ISO 18752-C/D; JIS K6349-3

## TYPE APPROVALS

CU-TR; MSHA; FRAS; CCS; ABS; BV; LR; DNV-GL(MED); NK; B

# GOLDENISO/35 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10096010*	10	-6	3/8"	16.7	0.66	18.9	0.74	350	5,070	1,400	20,300	80	3.15	530	0.36	MF+M00910-06	OPK-06
H10096012*	12	-8	1/2"	19.6	0.77	21.8	0.86	350	5,070	1,400	20,300	90	3.54	660	0.44	MF+M00910-08	OPK-08
H10096016*	16	-10	5/8"	23.5	0.93	25.7	1.01	350	5,070	1,400	20,300	100	3.94	934	0.63	MF+M00910-10	OPK-10
H10096019*	19	-12	3/4"	27.5	1.08	29.9	1.18	350	5,070	1,400	20,300	120	4.72	1,220	0.82	IP+M01500-12	SP+M05400-12
H10096025*	25	-16	1"	34.6	1.36	37.0	1.46	350	5,070	1,400	20,300	150	5.91	1,800	1.21	IP+M01500-16	SP+M05400-16
H10096031*	31	-20	1.1/4"	42.1	1.66	44.9	1.77	350	5,070	1,400	20,300	230	9.06	2,340	1.57	IP+M01500-20	SP+M05400-20
H10096038*	38	-24	1.1/2"	52.9	2.08	56.1	2.21	350	5,070	1,400	20,300	300	11.81	4,165	2.80	IP+M01600-24	SP+M05500-24
H10096051*	51	-32	2"	66.8	2.63	70.4	2.77	350	5,070	1,400	20,300	360	14.17	6,161	4.14	IP+M01800-32	SP+M05500-32

## KEY FEATURES

- Bend radius which exceeds the standard requirements by - 30% to -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 requirements
- Weight saving of 20% vs traditional R15 hose construction
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel spirals (DN 10-31). Six high tensile steel spirals (DN 38, 51).

## COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

ISO 18752-C/D, JIS K6349-3, meets and exceed EN 856-R13 & ISO 3862-R13 performance

## TYPE APPROVALS

DNV-GL; CU-TR; MSHA; FRAS; B; ABS; BV; LR; RINA; DNV-GL(MED); MA

# GOLDENISO/42 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10097006*	6	-4	1/48"	11.3	0.44	13.1	0.52	420	6,090	1,680	24,360	45	1.77	284	0.19	MF+M00120-04	
H10097010*	10	-6	3/8"	17.6	0.69	20.0	0.79	420	6,090	1,680	24,360	100	3.94	688	0.46	MF+M00910-06	
H10097012*	12	-8	1/2"	20.3	0.80	22.7	0.89	420	6,090	1,680	24,360	120	4.72	807	0.54	MF+M00910-08	
H10097016*	16	-10	5/8"	23.9	0.94	26.4	1.04	420	6,090	1,680	24,360	140	5.51	989	0.66	IP+M01500-10	SP+M05400-10
H10097019*	19	-12	3/4"	27.7	1.09	30.2	1.19	420	6,090	1,680	24,360	150	5.91	1,285	0.86	IP+M01500-12	SP+M05400-12
H10097025*	25	-16	1"	34.8	1.37	37.3	1.47	420	6,090	1,680	24,360	210	8.27	2,007	1.35	IP+M01500-16	SP+M05400-16
H10097031*	31	-20	1.1/4"	46.3	1.82	49.5	1.95	420	6,090	1,680	24,360	260	10.24	3,663	2.46	IP+M01600-20	SP+M05500-20
H10097038*	38	-24	1.1/2"	53.2	2.09	56.4	2.22	420	6,090	1,680	24,360	310	12.20	4,450	2.99	IP+M01600-24	SPGX+M05500-24GX
H10097051*	51	-32	2"	68.9	2.71	72.4	2.85	420	6,090	1,680	24,360	500	19.69	7,310	4.91	IS+M02700-32	SPGX+M05500-32GX

## KEY FEATURES

- Bend radius which exceeds the standard requirements by - 30% to -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 requirements
- Weight saving of 20% vs traditional R15 hose construction
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Heavy duty power lines
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel wire braids (DN 6). Four high tensile steel spirals (DN 10-31). Six high tensile steel spirals (DN 38-51).

## COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

ISO 18752-C (Grade C "Plus" approved 1 Mil impulse cycles with Interlock Plus fittings), meets and exceed ISO 3862-R15 performance

## TYPE APPROVALS

CU-TR; MSHA; FRAS; B; ABS; BV; LR; RINA; DNV-GL(MED); DNV-GL; MA

## REMARKS



- Size -20 is qualified to reduced bend radius with Interlock Plus fitting solution  
-20: MBR = 210mm

# GOLDENISO/38 LONGLIFE

HIGH FATIGUE RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10098006*	6	-4	1/4"	11.3	0.44	13.1	0.52	380	5,510	1,680	24,360	45	1.77	284	0.19	MF+M00120-04	
H10098008*	8	-5	5/16"	12.9	0.51	14.7	0.58	380	5,510	1,680	24,360	55	2.17	318	0.21	MF+M00120-05	
H10098010*	10	-6	3/8"	15.5	0.61	17.1	0.67	380	5,510	1,680	24,360	65	2.56	440	0.30	MF+M00120-06	
H10098012*	12	-8	1/2"	18.6	0.73	20.6	0.81	380	5,510	1,680	24,360	80	3.15	573	0.39	MF+M00120-08	
H10098019*	19	-12	3/4"	27.7	1.09	32.0	1.26	380	5,510	1,680	24,360	170	6.69	1,410	0.95	IP+M01500-12	
H10098025*	25	-16	1"	34.8	1.37	38.1	1.50	380	5,510	1,680	24,360	220	8.66	1,964	1.32	IP+M01500-16	
H10098031*	31	-20	1.1/4"	46.3	1.82	49.5	1.95	380	5,510	1,680	24,360	267	10.51	3,663	2.46	IP+M01600-20	

## KEY FEATURES

- Designed for original equipment
- Long-term mission profile in severe applications
- Over standard pressure rating
- High impulse resistance exceeding the ISO 18752 requirements
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic properties of the cover
- Wide compatibility with hydraulic fluids, mineral and biodegradable oils
- Low bend radius, better than the standard requirements
- Interlock-Plus easy mounting system for a very high-level robustness
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- Heavy duty pressure lines, hydrostatic transmissions, heavy duty earth moving equipment, hydraulic presses, drilling applications, injection moulding machines, specific installations with severe abrasion conditions and/or harsh environmental conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel wire braids (DN 6 - 12), four high tensile steel wire spirals (DN 19 & 25), six high tensile steel wire spirals (DN 31)

## COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

Manuli® Design: DN 6 to 12 exceeds ISO 18752-C extension; DN 19 to 31 exceeds SAE J517 Type 100R13; ISO 3862 R13; ISO 18752-C-D extension

## TYPE APPROVALS

CU-TR; MSHA; FRAS



# GOLDENISO/45 LONGLIFE

HIGH FATIGUE RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10089006*	6	-4	1/4"	14.7	0.58	17.1	0.67	460	6,670	1,840	26,680	125	4.92	567	0.38	IP+M01500-04	
H10089016*	16	-10	5/8"	25.5	1.00	28.5	1.12	460	6,670	1,840	26,680	250	9.84	1,290	0.87	IP+M01500-10	
H10089019*	19	-12	3/4"	28.4	1.12	32.0	1.26	460	6,670	1,840	26,680	280	11.02	1,530	1.03	IP+M01500-12	
H10089025*	25	-16	1"	35.4	1.39	38.2	1.50	460	6,670	1,840	26,680	340	13.39	2,150	1.44	IP+M01500-16	
H10089031*	31	-20	1.1/4"	46.3	1.82	49.5	1.95	450	6,520	1,800	26,100	420	16.54	3,790	2.55	IP+M01800-20	
H10089038*	38	-24	1.1/2"	54.2	2.13	58.0	2.28	450	6,520	1,800	26,100	450	17.72	5,002	3.36	IP+M01600-24	

## KEY FEATURES

- Designed for original equipment
- Long-term mission profile in severe applications
- Over standard pressure rating
- High impulse resistance exceeding the ISO 18752 requirements
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic properties of the cover
- Wide compatibility with hydraulic fluids, mineral and biodegradable oils
- Low bend radius, better than the standard requirements
- Interlock-Plus easy mounting system for a very high-level robustness
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- Heavy duty pressure lines, hydrostatic transmissions, heavy duty earth moving equipment, hydraulic presses, drilling applications, injection moulding machines, specific installations with severe abrasion conditions and/or harsh environmental conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel wire spirals (DN 6-25). Six high tensile steel wire spirals (DN 31-38)

## COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

Manuli® Design exceeds SAE J517 Type 100R15; ISO 3862 R15; ISO 18752-D extension

## TYPE APPROVALS

CU-TR; MSHA; FRAS



# SHIELDMASTER/21

## OUTSTANDING WEAR RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01154006*	6	-4	1/4"	10,2	0,40	12,2	0,48	210	3040	840	12180	50	1,97	188	0,13	MF+M00120-04	OPF-04
H01154008*	8	-5	5/16"	11,5	0,45	13,6	0,54	210	3040	840	12180	55	2,17	212	0,14	MF+M00120-05	OPF-05
H01154010*	10	-6	3/8"	14,4	0,57	16,0	0,63	210	3040	840	12180	65	2,56	306	0,21	MF+M00120-06	OPF-06
H01154012*	12	-8	1/2"	18,1	0,71	20,1	0,79	210	3040	840	12180	90	3,54	444	0,30	MF+M00120-08	OPK-08
H01154016*	16	-10	5/8"	22,2	0,87	24,2	0,95	210	3040	840	12180	100	3,94	624	0,42	MF+M00120-10	OPF-10
H01154019*	19	-12	3/4"	25,6	1,01	27,7	1,09	210	3040	840	12180	120	4,72	771	0,52	MF+M00120-12	OPF-12
H01154025*	25	-16	1"	33,0	1,30	34,8	1,37	210	3040	840	12180	150	5,91	1,193	0,80	MF+M00130-16	OPF-16

### KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

### APPLICATIONS & FLUIDS

- Low, medium pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high tensile wire braid (DN 6 to 12), two high tensile wire braids (DN 16 to 25)

### COVER

**SHIELD**  
Composite bi-layer structure with outstanding abrasion and ozone resistance

### APPLICABLE SPECS

ISO 18752-B

### TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

### REMARKS



- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases

# SHIELDMASTER/28

OUTSTANDING WEAR RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01155006*	6	-4	1/4"	11.6	0.46	13.6	0.54	280	4,060	1,120	16,240	50	1.97	272	0.18	MF+M00120-04	OPF-04
H01155008*	8	-5	5/16"	12.9	0.51	14.9	0.59	280	4,060	1,120	16,240	55	2.17	299	0.20	MF+M00120-05	OPF-05
H01155010*	10	-6	3/8"	15.4	0.61	17.4	0.69	280	4,060	1,120	16,240	63	2.48	397	0.27	MF+M00120-06	OPF-06
H01155012*	12	-8	1/2"	18.5	0.73	20.5	0.81	280	4,060	1,120	16,240	80	3.15	507	0.34	MF+M00120-08	OPK-08
H01155016*	16	-10	5/8"	22.7	0.89	24.7	0.97	280	4,060	1,120	16,240	90	3.54	731	0.49	MF+M00120-10	OPK-10
H01155019*	19	-12	3/4"	27.1	1.07	29.3	1.15	280	4,060	1,120	16,240	120	4.72	1,058	0.71	MF+M00120-12	OPK-12
H01155025*	25	-16	1"	34.1	1.34	36.5	1.44	280	4,060	1,120	16,240	150	5.91	1,536	1.03	MF+M00930-16	OPK-16
H01155031*	31	-20	1.1/4"	41.7	1.64	44.5	1.75	280	4,060	1,120	16,240	210	8.27	2,171	1.46	MF+M00920-20	OPK-20

## KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

## APPLICATIONS & FLUIDS

- Medium and high pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids (DN 6-19); Four high tensile steel spirals (DN 25-31)

## COVER

SHIELD

Composite bi-layer structure with outstanding abrasion and ozone resistance

## APPLICABLE SPECS

ISO 18752-B

## TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

## REMARKS



- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases

# SHIELDMASTER/35

## OUTSTANDING WEAR RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10119006*	6	-4	1/4"	11.3	0.44	13.1	0.52	350	5,070	1,400	20,300	45	1.77	288	0.19	MF+M00120-04	OPF-04
H10119008*	8	-5	5/16"	12.9	0.51	14.9	0.59	350	5,070	1,400	20,300	55	2.17	330	0.22	MF+M00120-05	OPF-05
H10119010*	10	-6	3/8"	15.0	0.59	16.8	0.66	350	5,070	1,400	20,300	65	2.56	393	0.26	MF+M00120-06	OPF-06
H10119012*	12	-8	1/2"	18.6	0.73	20.4	0.80	350	5,070	1,400	20,300	80	3.15	556	0.37	MF+M00120-08	OPK-08
H10119016*	16	-10	5/8"	23.5	0.93	25.9	1.02	350	5,070	1,400	20,300	100	3.94	964	0.65	MF+M00910-10	OPK-10
H10119019*	19	-12	3/4"	27.5	1.08	29.9	1.18	350	5,070	1,400	20,300	120	4.72	1,229	0.83	IP+M01500-12	SP+M05400-12
H10119025*	25	-16	1"	34.6	1.36	37.0	1.46	350	5,070	1,400	20,300	150	5.91	1,795	1.21	IP+M01500-16	SP+M05400-16
H10119031*	31	-20	1.1/4"	42.1	1.66	44.9	1.77	350	5,070	1,400	20,300	230	9.06	2,369	1.59	IP+M01500-20	SP+M05400-20
H10119038*	38	-24	1.1/2"	51.2	2.02	56.1	2.21	350	5,070	1,400	20,300	300	11.81	4,214	2.83	IP+M01600-24	SP+M05500-24
H10119051*	51	-32	2"	66.8	2.62	70.4	2.77	350	5,070	1,400	20,300	360	14.17	6,205	4.17	IP+M01800-32	SP+M05500-32

### KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

### APPLICATIONS & FLUIDS

- High pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids (DN 6-12); Four high tensile steel spirals (DN 16-31); Six high tensile steel spirals (DN 38-51)

### COVER

**SHIELD**  
Composite bi-layer structure with outstanding abrasion and ozone resistance

### APPLICABLE SPECS

ISO 18752-B

### TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

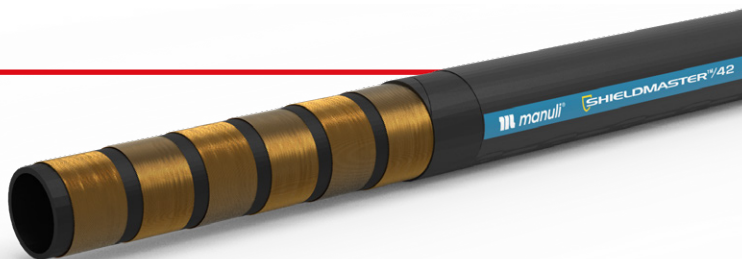
### REMARKS



- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases

# SHIELDMASTER/42

OUTSTANDING WEAR RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10120006*	6	-4	1/4"	11,3	0,44	13,3	0,52	420	6090	1680	24360	45	1,77	294	0,20	MF+M00120-04	OPF-04
H10120010*	10	-6	3/8"	17,6	0,69	20,0	0,79	420	6090	1680	24360	100	3,94	699	0,47	MF+M00910-08	OPK-08
H10120012*	12	-8	1/2"	20,3	0,80	22,7	0,89	420	6090	1680	24360	120	4,72	808	0,54	MF+M00910-08	OPK-08
H10120019*	19	-12	3/4"	27,7	1,09	30,2	1,19	420	6090	1680	24360	150	5,91	1,307	0,88	IP+M01500-12	SP+M05400-12
H10120025*	25	-16	1"	35,0	1,38	37,5	1,48	420	6090	1680	24360	210	8,27	2,031	1,36	IP+M01500-16	SP+M05400-16
H10120031*	31	-20	1.1/4"	44,7	1,76	49,5	1,95	420	6090	1680	24360	260	10,24	3,701	2,49	IP+M01600-20	SP+M05500-20
H10120038*	38	-24	1.1/2"	53,2	2,09	56,4	2,22	420	6090	1680	24360	310	12,20	4,498	3,01	IP+M01600-24	SPGX+M05500-24GX
H10120051*	51	-32	2"	68,9	2,71	72,4	2,85	420	6090	1680	24360	500	19,69	7,388	4,96	IS+M02700-32	

### KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

### APPLICATIONS & FLUIDS

- High pressure hydraulic lines
- Heavy duty power lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids (DN 6); Four high tensile steel spirals (DN 10-25); Six high tensile steel spirals (DN 31-51)

### COVER

SHIELD

Composite bi-layer structure with outstanding abrasion and ozone resistance

### APPLICABLE SPECS

ISO 18752-B

### TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

### REMARKS



- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases

# DIAMONDSPIR/14

HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10104076*	76	-48	3"	87.8	3.46	92.2	3.63	140	2,030	560	8,120	700	27.56	5,900	3.96	IP+M01500-48	

## KEY FEATURES

- Extreme abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic cover
- Superior pressure rating
- Structure robustness for tough handling
- Interlock robust fitting technology

## APPLICATIONS & FLUIDS

- Medium pressure hydraulic lines with high flow rates, mine hydraulic return lines, large equipment hydraulics
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F  
121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile wire spirals

## COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

Manuli® Design, ISO 18752-C Ext.

## TYPE APPROVALS

CU-TR; MSHA; CCS; DNV-GL; ABS; FRAS

# DIAMONDSPIR/17

HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10104076*	76	-48	3"	89.0	3.50	92.1	3.63	170	2,460	700	10,150	600	25.98	6,060	4.07	IP+M01500-48	
H10104089*	89	-56	3.1/2"	109.7	4.32	115.6	4.55	170	2,460	800	11,600	1,200	47.24	12,735	8.56	IS+M02610-56	

### KEY FEATURES

- Extreme abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic cover
- Superior pressure rating
- Structure robustness for tough handling
- Interlock robust fitting technology

### APPLICATIONS & FLUIDS

- Medium pressure hydraulic lines with high flow rates, mine hydraulic return lines, large equipment hydraulics
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four or six high tensile wire spirals

### COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

Manuli® Design, ISO 18752-C Ext.

### TYPE APPROVALS

CU-TR; MSHA;

# DIAMONDSPIR/21

VERY HIGH HYDRAULIC POWER TRANSMISSION



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10102063*	63	-40	2.1/2"	77.5	3.05	81.5	3.21	210	3,040	840	12,180	700	27.56	5,890	3.96	IP+M01500-40	
H10102076*	76	-48	3"	990.8	3.57	94.6	3.72	210	3,040	840	12,180	900	35.43	7,910	5.32	IP+M01810-48	

## KEY FEATURES

- Very high flow rates in high pressure hydraulics
- Extremely robust hose structure
- Compact hose dimensions
- Approved with severe fatigue tests
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant (MSHA) and antistatic properties
- Biological and mineral oils compatibility
- Crimped Interlock Plus fitting structures

## APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines, hydrostatic transmissions in severe environmental conditions, specific installations with tough abrasion conditions, off-shore applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F  
121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four to six high tensile wire spirals

## COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

Manuli® Design, ISO 18752-C Ext.

## TYPE APPROVALS

CU-TR; MSHA; MA; CCS; ABS; DNV-GL



# DIAMONDSPIR/35

VERY HIGH HYDRAULIC POWER TRANSMISSION



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10103063*	63	-40	2.1/2"	80.6	3.17	84.8	3.34	350	5,070	1,400	20,300	800	31.50	8,105	5.45	IP+M01810-40	
H10103076*	76	-48	3"	97.9	3.85	101.9	4.01	350	5,070	1,400	20,300	1,000	39.37	12,249	8.23	IS+M02700-48	IS+M02800-48

## KEY FEATURES

- Very high flow rates in high pressure hydraulics
- Extremely robust hose structure
- Compact hose dimensions
- Approved with severe fatigue tests
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant (MSHA) and antistatic properties
- Biological and mineral oils compatibility
- Crimped Interlock Plus & Interlock Super fitting structures

## APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines, hydrostatic transmissions in severe environmental conditions, specific installations with tough abrasion conditions, off-shore applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Six to eight high tensile wire spirals

## COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

Manuli® Design, ISO 18752-C Ext.

## TYPE APPROVALS

CU-TR; MSHA; MA; CCS;ABS; DNV-GL; FRAS



# ROCKMASTER/1SC

ABRASION, WEATHER & HEAT RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01108006*	6	-4	1/4"	10.2	0.40	12.0	0.47	260	3,770	1,050	15,220	50	1.97	180	0.12	MF+M03300-04	MF+M00120-04
H01108008*	8	-5	5/16"	11.5	0.45	13.6	0.54	250	3,620	1,000	14,500	55	2.17	210	0.14	MF+M03300-05	MF+M00120-05
H01108010*	10	-6	3/8"	13.6	0.54	15.5	0.61	225	3,260	900	13,050	60	2.36	255	0.17	MF+M03300-06	MF+M00120-06
H01108012*	12	-8	1/2"	17.3	0.68	19.1	0.75	190	2,750	760	11,020	70	2.76	355	0.24	MF+M03300-08	MF+M00120-08
H01108016*	16	-10	5/8"	20.6	0.81	22.4	0.88	150	2,170	600	8,700	90	3.54	430	0.29	MF+M03400-10	MF+M00820-10
H01108019*	19	-12	3/4"	23.9	0.94	25.9	1.02	150	2,170	600	8,700	100	3.94	520	0.35	MF+M03400-12	MF+M00820-12
H01108025*	25	-16	1"	31.3	1.23	33.1	1.30	110	1,590	440	6,380	160	6.30	730	0.49	MF+M03400-16	MF+M00820-16
H01108031*	31	-20	1.1/4"	38.4	1.51	40.9	1.61	75	1,080	300	4,350	210	8.27	1,040	0.70	MF+M03400-20	MF+M00820-20
H01108038*	38	-24	1.1/2"	45.0	1.77	47.5	1.87	50	720	200	2,900	300	11.81	1,170	0.79	MF+M00820-24	
H01108051*	51	-32	2"	58.0	2.28	60.5	2.38	50	720	200	2,900	400	15.75	1,560	1.05	MF+M00820-32	
H01108063*	63	-40	2.1/2"	70.5	2.78	73.0	2.87	50	720	200	2,900	760	29.92	2,090	1.40	MF+M03400-40	
H01108076*	76	-48	3"	85.0	3.35	87.7	3.45	35	500	140	2,030	900	35.43	2,616	1.76	MF+M03400-48	

## KEY FEATURES

- Compact and flexible one wire braid hose line
- High temperature resistance for the most severe service and OEM applications
- Working pressure exceeds 1SC standards
- Superior protection with ROCKMASTER® cover compound
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Vacuum resistance with SAE 100 R4 performance approved on sizes up to DN 31

## APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines with installation constraints in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high tensile steel braid

## COVER

STRONG - TYPE "SD"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 857 1SC; ISO 11237 1SC

## TYPE APPROVALS

CU-TR; LR; MSHA; ABS; CCS; DNV-GL

## REMARKS



- For hydraulic lift applications according to EN 81-20 applications, the following sizes and working pressures are recommended: DN 19 - WP = 50 bar; DN 25 - WP = 50 bar; DN 31 - WP = 50 bar

# ROCKMASTER/2SC

ABRASION, WEATHER & HEAT RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01030005*	5	-3	3/16"	9.7	0.38	11.5	0.45	420	6,090	2,000	29,000	40	1.57	220	0.15	MF+M03300-03	OPF-03
H01030006*	6	-4	1/4"	11.3	0.44	13.1	0.52	400	5,800	1,850	26,830	45	1.77	275	0.18	MF+M03300-04	OPF-04
H01030008*	8	-5	5/16"	12.9	0.51	14.7	0.58	350	5,070	1,700	24,650	55	2.17	325	0.22	MF+M03300-05	OPF-05
H01030010*	10	-6	3/8"	15.0	0.59	16.8	0.66	330	4,780	1,500	21,750	65	2.56	390	0.26	MF+M03300-06	OPF-06
H01030012*	12	-8	1/2"	18.5	0.73	20.3	0.80	275	3,980	1,220	17,690	80	3.15	500	0.34	MF+M03300-08	OPF-08
H01030016*	16	-10	5/8"	21.8	0.86	23.6	0.93	250	3,620	1,050	15,220	90	3.54	620	0.42	MF+M03400-10	OPF-10
H01030019*	19	-12	3/4"	25.6	1.01	27.6	1.09	245	3,550	980	14,210	120	4.72	790	0.53	MF+M03400-12	OPF-12
H01030025*	25	-16	1"	33.0	1.30	35.2	1.39	210	3,040	840	12,180	150	5.91	1,180	0.79	MF+M03400-16	OPF-16
H01030031*	31	-20	1.1/4"	41.1	1.62	43.6	1.72	140	2,030	560	8,120	250	9.84	1,550	1.04	MF+M03400-20	OPK-20
H01030038*	38	-24	1.1/2"	47.7	1.88	50.7	2.00	100	1,450	400	5,800	300	11.81	1,880	1.26	MF+M03400-24	OPK-24
H01030051*	51	-32	2"	60.4	2.38	63.4	2.50	90	1,300	360	5,220	400	15.75	2,430	1.63	MF+M03400-32	OPK-32
H01030063*	63	-40	2.1/2"	73.0	2.87	76.0	2.99	70	1,010	300	4,350	760	29.92	2,900	1.95	MF+M03400-40	
H01030076*	76	-48	3"	87.8	3.46	90.5	3.56	45	650	180	2,610	900	35.43	3,120	2.10	MF+M03400-48	

## KEY FEATURES

- Compactness and flexibility
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Working pressure improvement
- Range extension to DN 76
- Vacuum resistance with SAE 100 R4 performance approved on sizes up to DN 76

## APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines with installation constraints in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining, return and suction lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids

## COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 857 2SC; ISO 11237 2SC; SAE 100 R16. In addition: DN 25 SAE 100 R17; ISO 11237 R17

## TYPE APPROVALS

ABS; BV; DNV-GL; CU-TR; LR; MSHA; RINA; B; FRAS; CCS; NK; DNV-GL(MED)

## REMARKS



- For hydraulic lift applications according to EN 81-20 applications, the following sizes and working pressures are recommended: DN 31 - WP = 50 bar; DN 38 - WP = 50 bar; DN 51 - WP = 45 bar

# ROCKMASTER/1SN

ABRASION, WEATHER & HEAT RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01007006*	6	-4	1/4"	11.0	0.43	13.0	0.51	225	3,260	1,000	14,500	100	3.94	215	0.14	MF+M03400-04	OPF-04
H01007008*	8	-5	5/16"	12.6	0.50	14.6	0.57	215	3,110	950	13,770	114	4.49	260	0.17	MF+M03400-05	OPF-05
H01007010*	10	-6	3/8"	15.0	0.59	17.0	0.67	180	2,610	800	11,600	127	5.00	320	0.22	MF+M03400-06	OPF-06
H01007012*	12	-8	1/2"	18.1	0.71	20.1	0.79	160	2,320	680	9,860	178	7.01	400	0.27	MF+M03400-08	OPF-08
H01007016*	16	-10	5/8"	21.3	0.84	23.3	0.92	130	1,880	600	8,700	200	7.87	480	0.32	MF+M03400-10	OPF-10
H01007019*	19	-12	3/4"	25.3	1.00	27.3	1.07	105	1,520	500	7,250	240	9.45	600	0.40	MF+M03400-12	OPF-12
H01007025*	25	-16	1"	33.1	1.30	35.1	1.38	90	1,300	360	5,220	300	11.81	910	0.61	MF+M03400-16	OPF-16
H01007032*	31	-20	1.1/4"	40.6	1.60	43.3	1.70	65	940	260	3,770	419	16.50	1,243	0.84	MF+M03400-20	OPK-20
H01007040*	38	-24	1.1/2"	47.0	1.85	49.7	1.96	50	720	260	3,770	500	19.69	1,450	0.97	MF+M03400-24	OPK-24
H01007051*	51	-32	2"	60.4	2.38	63.1	2.48	40	580	250	3,620	630	24.80	2,050	1.38	MF+M03400-32	OPK-32
H01007060*	60	-38	2.3/8"	68.8	2.71	71.5	2.81	50	720	200	2,900	650	25.59	2,190	1.47	MF+M03400-38	

## KEY FEATURES

- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover

## APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines, return lines, in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high tensile steel braid

## COVER

STRONG - TYPE "SD"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 853 1SN; SAE 100 R1AT; ISO 1436 1SN/R1AT

## TYPE APPROVALS

ABS; BV; DNV-GL; DNV-GL (MED); FRAS; CU-TR; MSHA; LR; NK; MA; CCS; KRS; RINA

# ROCKMASTER/2SN

ABRASION, WEATHER & HEAT RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01038006*	6	-4	1/4"	12.7	0.50	14.7	0.58	400	5,800	1,750	25,380	50	1.97	365	0.25	MF+M03400-04	OPF-04
H01038008*	8	-5	5/16"	14.3	0.56	16.3	0.64	350	5,070	1,480	21,460	60	2.36	405	0.27	MF+M03400-05	OPF-05
H01038010*	10	-6	3/8"	16.7	0.66	18.7	0.74	350	5,070	1,400	20,300	70	2.76	530	0.36	MF+M03400-06	OPF-06
H01038012*	12	-8	1/2"	19.8	0.78	21.8	0.86	350	5,070	1,400	20,300	89	3.50	650	0.44	MF+M03400-08	OPF-08
H01038016*	16	-10	5/8"	23.0	0.91	25.0	0.98	250	3,620	1,020	14,790	100	3.94	720	0.48	MF+M03400-10	OPF-10
H01038019*	19	-12	3/4"	27.0	1.06	29.0	1.14	215	3,110	900	13,050	130	5.12	930	0.62	MF+M03400-12	OPF-12
H01038025*	25	-16	1"	34.8	1.37	36.8	1.45	175	2,530	670	9,710	160	6.30	1,290	0.87	MF+M03400-16	OPF-16
H01038032*	31	-20	1.1/4"	44.3	1.74	47.0	1.85	140	2,030	600	8,700	419	16.50	1,930	1.30	MF+M03400-20	OPK-20
H01038040*	38	-24	1.1/2"	50.7	2.00	53.4	2.10	100	1,450	500	7,250	500	19.69	2,262	1.52	MF+M03400-24	OPK-24
H01038051*	51	-32	2"	63.5	2.50	66.2	2.61	90	1,300	420	6,090	630	24.80	2,880	1.94	MF+M03400-32	OPK-32
H01038060*	60	-38	2.3/8"	68.8	2.71	71.5	2.81	90	1,300	360	5,220	650	25.59	2,670	1.79	MF+M03400-38	

### KEY FEATURES

- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Over standard pressure resistance

### APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds EN 853 2SN; SAE 100 R2AT; ISO 1436 2SN/R2AT

### TYPE APPROVALS

ABS; BV; DNV-GL; DNV-GL (MED); LR; FRAS; CU-TR; MSHA; RINA ; B; NK; MA; DIN 5510-2; CCS; KRS

# ROCKMASTER/2ST

ABRASION, WEATHER & HEAT RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01035005*	5	-3	3/16"	11.3	0.44	15.6	0.61	415	6,010	2,000	29,000	89	3.50	385	0.26	MF+M00910-03	
H01035006*	6	-4	1/4"	12.7	0.50	17.2	0.68	400	5,800	1,750	25,380	100	3.94	450	0.30	MF+M00910-04	
H01035008*	8	-5	5/16"	14.3	0.56	18.9	0.74	350	5,070	1,480	21,460	114	4.49	500	0.34	MF+M00910-05	
H01035010*	10	-6	3/8"	16.7	0.66	21.3	0.84	350	5,070	1,400	20,300	127	5.00	640	0.43	MF+M00910-06	
H01035012*	12	-8	1/2"	19.8	0.78	24.5	0.96	350	5,070	1,400	20,300	178	7.01	790	0.53	MF+M00910-08	
H01035016*	16	-10	5/8"	23.0	0.91	27.7	1.09	250	3,620	1,020	14,790	200	7.87	870	0.58	MF+M00910-10	
H01035019*	19	-12	3/4"	27.0	1.06	31.6	1.24	215	3,110	900	13,050	240	9.45	1,100	0.74	MF+M00920-12	
H01035025*	25	-16	1"	34.8	1.37	39.5	1.56	175	2,530	670	9,710	300	11.81	1,510	1.01	MF+M00930-16	
H01035032*	31	-20	1.1/4"	44.3	1.74	50.6	1.99	140	2,030	600	8,700	419	16.50	2,310	1.55	MF+M00920-20	
H01035040*	38	-24	1.1/2"	50.7	2.00	57.0	2.24	100	1,450	500	7,250	500	19.69	2,683	1.80	MF+M00910-24	
H01035051*	51	-32	2"	63.5	2.50	69.8	2.75	90	1,300	420	6,090	630	24.80	3,410	2.29	MF+M00910-32	

## KEY FEATURES

- High robustness of the cover for mining applications and tough handling
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Over standard pressure resistance

## APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids

## COVER

STRONG - TYPE "SD"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 853 2ST; SAE 100 R2A; ISO 1436 2ST/R2A

## TYPE APPROVALS

BV; CU-TR; LR; B; MSHA; FRAS; ABS; RINA

# ROCKMASTER/2 PLUS SUPER ANTI-WEAR

ABRASION, WEATHER & HEAT RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01139006*	6	-4	1/4"	11.3	0.44	13.1	0.52	450	6,520	1,800	26,100	45	1.77	269	0.18	MF+M03400-04	
H01139010*	10	-6	3/8"	16.7	0.66	18.5	0.73	400	5,800	1,600	23,200	127	5.00	518	0.35	MF+M00910-06	OPK-06
H01139012*	12	-8	1/2"	20.1	0.79	22.1	0.87	362	5,250	1,450	21,030	150	5.91	683	0.46	MF+M00910-08	OPK-08
H01139016*	16	-10	5/8"	23.2	0.91	25.2	0.99	340	4,930	1,360	19,720	200	7.87	833	0.56	MF+M00910-10	OPK-10
H01139019*	19	-12	3/4"	27.1	1.07	29.3	1.15	310	4,490	1,240	17,980	230	9.06	1,034	0.69	MF+M00920-12	OPK-12
H01139025*	25	-16	1"	35.1	1.38	37.8	1.49	240	3,480	960	13,920	300	11.81	1,531	1.03	MF+M00930-16	OPK-16
H01139032*	31	-20	1.1/4"	44.5	1.75	47.2	1.86	175	2,530	700	10,150	380	14.96	2,055	1.38	MF+M00920-20	OPK-20
H01139038*	38	-24	1.1/2"	51.0	2.01	53.7	2.11	146	2,110	584	8,470	450	17.72	2,444	1.64	MF+M00910-24	
H01139051*	51	-32	2"	62.8	2.47	65.5	2.58	112	1,620	448	6,490	600	23.62	3,013	2.02	MF+M00910-32	
H01139076*	76	-48	3"	87.8	3.46	91.4	3.60	70	1,010	280	4,060	500	19.69	3,901	2.62	MF+M03400-48	

### KEY FEATURES

- Superior pressure rating
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Robustness thanks to skive fittings solution

### APPLICATIONS & FLUIDS

- Hydraulics: high pressure lines with installation constraints in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

R.O.C.

Synthetic rubber with extreme abrasion and ozone resistance

### APPLICABLE SPECS

Manuli® Design exceeds ISO 1436-2SN; EN 853-2SN; SAE J517 Type 100R2AT. Performance BCS 174; ISO 6805 Type 4

### TYPE APPROVALS

MSHA; CU-TR

# ROCKMASTER/4SH

ABRASION, WEATHER & HEAT RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10044016*	16	-10	5/8"	25.5	1.00	28.5	1.12	450	6,520	1,850	26,830	180	7.09	1,290	0.87	IP+M01500-10	
H10044019*	19	-12	3/4"	28.2	1.11	31.9	1.26	420	6,090	1,750	25,380	210	8.27	1,500	1.01	IP+M01500-12	SP+M05400-12
H10044025*	25	-16	1"	35.1	1.38	38.1	1.50	385	5,580	1,750	25,380	220	8.66	2,040	1.37	IP+M01500-16	SP+M05400-16
H10044032*	31	-20	1.1/4"	42.2	1.66	45.0	1.77	350	5,070	1,400	20,300	420	16.54	2,410	1.62	IP+M01500-20	SP+M05400-20
H10044038*	38	-24	1.1/2"	49.1	1.93	53.1	2.09	300	4,350	1,250	18,120	560	22.05	3,170	2.13	IP+M01500-24	SP+M05400-24
H10044051*	51	-32	2"	63.5	2.50	67.5	2.66	250	3,620	1,000	14,500	700	27.56	4,460	3.00	IP+M01500-32	SP+M05400-32

## KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Upgraded temperature resistance
- BIO biological and mineral oils compatibility

## APPLICATIONS & FLUIDS

- Hydraulics: very high pressure power lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel spirals

## COVER

STRONG - TYPE "SD"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 856 4SH; ISO 3862 4SH

## TYPE APPROVALS

ABS; DNV-GL; DNV-GL (MED); BV; FRAS; CU-TR; LR; MA; MSHA; B; RINA; NK; CCS; KRS



# ROCKMASTER/4SP

ABRASION, WEATHER & HEAT RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10008006*	6	-4	1/4"	14.7	0.58	17.6	0.69	485	7,030	2,400	34,800	125	4.92	590	0.40	MF+M00910-04	
H10008010*	10	-6	3/8"	17.6	0.69	21.0	0.83	450	6,520	2,000	29,000	125	4.92	740	0.50	MF+M00910-06	
H10008012*	12	-8	1/2"	20.3	0.80	24.2	0.95	420	6,090	1,750	25,380	175	6.89	880	0.59	MF+M00910-08	
H10008016*	16	-10	5/8"	23.7	0.93	27.6	1.09	380	5,510	1,600	23,200	200	7.87	1,080	0.73	MF+M00910-10	
H10008019*	19	-12	3/4"	28.2	1.11	31.7	1.25	380	5,510	1,600	23,200	240	9.45	1,450	0.97	MF+M00920-12	SP+M05400-12
H10008025*	25	-16	1"	35.0	1.38	39.0	1.54	320	4,640	1,400	20,300	340	13.39	1,880	1.26	MF+M00930-16	SP+M05400-16
H10008032*	31	-20	1.1/4"	46.1	1.81	49.7	1.96	210	3,040	1,250	18,120	460	18.11	2,990	2.01	MF+M00920-20	SP+M05500-20
H10008038*	38	-24	1.1/2"	52.4	2.06	56.1	2.21	185	2,680	1,000	14,500	560	22.05	3,500	2.35	MF+M00910-24	SP+M05500-24
H10008051*	51	-32	2"	65.4	2.57	69.0	2.72	175	2,530	1,000	14,500	660	25.98	5,010	3.37	MF+M00910-32	SP+M05400-32

### KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Upgraded temperature resistance
- BIO biological and mineral oils compatibility

### APPLICATIONS & FLUIDS

- Hydraulics: very high pressure power lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile steel spirals

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds EN 856 4SP; ISO 3862 4SP; DN 16 & 19: thin cover style, exceeds EN 856 4SP and ISO 3862 4SP

### TYPE APPROVALS

ABS; DNV-GL; DNV-GL (MED); BV; FRAS; CU-TR; MA; MSHA; RINA; B; LR; NK; DB (EN 45545-2); CCS; KRS



# ROCKMASTER/12

ABRASION, WEATHER & HEAT RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10031010*	10	-6	3/8"	17.3	0.68	20.0	0.79	280	4,060	1,600	23,200	100	3.94	620	0.42	MF+M00910-06	OPK-06
H10031012*	12	-8	1/2"	20.4	0.80	23.5	0.93	280	4,060	1,350	19,580	125	4.92	760	0.51	MF+M00910-08	OPK-08
H10031016*	16	-10	5/8"	24.4	0.96	27.1	1.07	280	4,060	1,300	18,850	140	5.51	990	0.67	MF+M00910-10	OPK-10
H10031019*	19	-12	3/4"	27.4	1.08	30.4	1.20	280	4,060	1,300	18,850	150	5.91	1,160	0.78	MF+M00920-12	OPK-12
H10031025*	25	-16	1"	35.0	1.38	37.6	1.48	280	4,060	1,150	16,670	225	8.86	1,740	1.17	MF+M00930-16	OPK-16
H10031A32*	31	-20	1.1/4"	43.1	1.70	45.9	1.81	210	3,040	1,000	14,500	250	9.84	2,280	1.53	MF+M00920-20	OPK-20
H10031040*	38	-24	1.1/2"	50.0	1.97	53.3	2.10	175	2,530	1,000	14,500	500	19.69	3,130	2.10	MF+M00910-24	OPK-24
H10031051*	51	-32	2"	63.6	2.50	66.7	2.63	175	2,530	800	11,600	630	24.80	4,440	2.98	MF+M00910-32	OPK-32

## KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- BIO biological and mineral oils compatibility

## APPLICATIONS & FLUIDS

- Hydraulics: high pressure power lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel spirals

## COVER

STRONG - TYPE "SD"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 856 R12; SAE 100 R12; ISO 3862 R12

## TYPE APPROVALS

ABS; BV; FRAS; CU-TR; LR; MA; MSHA; NK; DNV-GL(MED)

# ROCKMASTER/13

ABRASION, WEATHER & HEAT RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10035A06*	6	-4	1/4"	14.6	0.57	17.6	0.69	690	10,000	3,250	47,130	120	4.72	660	0.44		
H10035A10*	10	-6	3/8"	17.4	0.69	20.4	0.80	690	10,000	2,900	42,060	150	5.91	830	0.56		
H10035A12*	12	-8	1/2"	21.5	0.85	24.5	0.96	620	8,990	2,500	36,250	200	7.87	1,140	0.77		
H10035019*	19	-12	3/4"	29.0	1.14	31.8	1.25	350	5,070	1,950	28,280	240	9.45	1,630	1.10	IP+M01500-12	SP+M05400-12
H10035025*	25	-16	1"	36.0	1.42	39.2	1.54	350	5,070	1,650	23,930	300	11.81	2,190	1.47	IP+M01500-16	SP+M05400-16
H10035032*	31	-20	1.1/4"	47.0	1.85	50.0	1.97	350	5,070	1,500	21,750	420	16.54	3,600	2.42	IP+M01600-20	SP+M05500-20
H10035040*	38	-24	1.1/2"	54.6	2.15	57.5	2.26	350	5,070	1,600	23,200	500	19.69	4,700	3.16	IP+M01600-24	SP+M05500-24
H10035051*	51	-32	2"	68.4	2.69	72.0	2.83	350	5,070	1,500	21,750	630	24.80	6,800	4.57	IP+M01800-32	SP+M05500-32

### KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- BIO biological and mineral oils compatibility

### APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines, hydrostatic transmissions, severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile steel spirals (DN 6-25). Six high tensile steel spirals (DN 31-51)

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

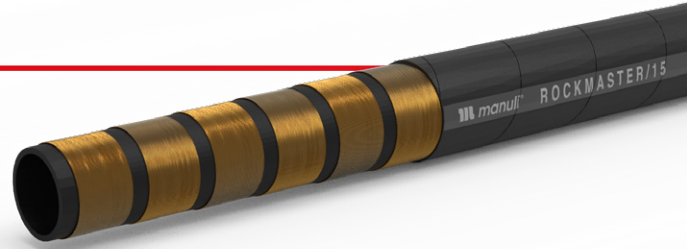
Exceeds EN 856 R13; SAE 100 R13; ISO 3862 R13

### TYPE APPROVALS

ABS; BV; DNV-GL; FRAS; LR; CU-TR; MA; MSHA; RINA; B; CCS; DNV-GL(MED)

# ROCKMASTER/15

ABRASION, WEATHER & HEAT RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10049019*	19	-12	3/4"	28.2	1.11	31.0	1.22	420	6,090	1,750	25,380	265	10.43	1,440	0.97	IP+M01500-12	SP+M05400-12
H10049025*	25	-16	1"	35.1	1.38	38.1	1.50	420	6,090	1,750	25,380	267	10.51	2,040	1.37	IP+M01500-16	SP+M05400-16
H10049A32*	31	-20	1.1/4"	46.3	1.82	49.5	1.95	420	6,090	1,680	24,360	267	10.51	3,660	2.46	IP+M01600-20	SP+M05500-20
H10049040*	38	-24	1.1/2"	54.6	2.15	57.5	2.26	420	6,090	1,680	24,360	315	12.40	4,700	3.16	IP+M01600-24	SP+M05500-24

## KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- BIO biological and mineral oils compatibility

## APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines, hydrostatic transmissions, in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel spirals (DN 19 - 25). Six high tensile steel spirals (DN 31 - 38)

## COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds SAE 100 R15; ISO 3862 R15

## TYPE APPROVALS

ABS; BV; DNV-GL; FRAS; CU-TR; LR; MA; MSHA; B; CCS; RINA; DNV-GL(MED)

# INFINITY

LONG SERVICE LIFE & HIGH RELIABILITY



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01164006	6	-04	1/4"	11.3	0.44	13.1	0.52	450	6,520	1,800	26,100	45	1.77	275	0.18	MF+M00120-04	OPF-04
H01164008	8	-05	5/16"	12.9	0.51	14.7	0.58	400	5,800	1,600	23,200	55	2.17	325	0.22	MF+M00120-05	OPF-05
H01164010	10	-06	3/8"	15.0	0.59	16.8	0.66	400	5,800	1,600	23,200	65	2.56	440	0.30	MF+M00120-06	OPK-06
H01164012	12	-08	1/2"	18.6	0.73	20.4	0.80	360	5,220	1,440	20,880	80	3.15	560	0.38	MF+M00120-08	OPK-08
H01164016	16	-10	5/8"	22.7	0.89	24.7	0.97	320	4,640	1,280	18,560	90	3.54	730	0.49	MF+M00120-10	OPK-10
H01164019	19	-12	3/4"	27.1	1.07	29.3	1.15	320	4,640	1,280	18,560	120	4.72	1,070	0.72	MF+M00120-12	OPK-12
H01164025	25	-16	1"	33.7	1.33	35.9	1.41	225	3,263	900	13,050	160	6.30	1,340	0.90	MF+M00130-16	OPK-16

## KEY FEATURES

- The Hi-Performance solution for toughest OEM specifications
- Performance far exceeds EN 857-2SC
- Extended service life and resistance to fatigue
- High temperature and environmental resistance
- Enhanced flex impulse resistance with M00120 skive ferrule
- Wide chemical compatibility with hydraulic fluids

## APPLICATIONS & FLUIDS

- Hydraulics: high pressure lines with installation constraints in severe OEM applications
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids

## COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

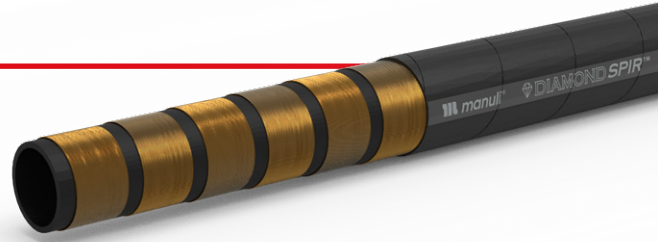
## APPLICABLE SPECS

Exceed EN 857 2SC, SAE 100R16, ISO 11237-2SC

## TYPE APPROVALS

MSHA; CU-TR; FRAS; B

**DIAMONDSPIR**  
VERY HIGH PRESSURE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10018019*	19	-12	3/4"	29.1	1.15	32.1	1.26	560	8,120	2,240	32,480	280	11.02	1,660	1.12	IP+M01850-12	
H10018025*	25	-16	1"	38.2	1.50	41.2	1.62	560	8,120	2,240	32,480	350	13.78	2,910	1.96	IP+M01850-16	
H10018032*	31	-20	1.1/4"	47.7	1.88	50.9	2.00	525	7,610	2,100	30,450	420	16.54	4,210	2.83	IP+M01850-20	
H10018038*	38	-24	1.1/2"	55.2	2.17	58.7	2.31	475	6,880	1,900	27,550	500	19.69	5,230	3.51	IS+M02700-24	
H10018051*	51	-32	2"	68.4	2.69	71.9	2.83	420	6,090	1,680	24,360	600	23.62	6,680	4.49	IS+M02700-32	

**KEY FEATURES**

- Very high pressure resistance
- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- BIO Biological and mineral oils compatibility

**APPLICATIONS & FLUIDS**

- Hydraulics: heavy duty power lines, hydrostatic transmissions, in severe environmental conditions, specific installations with tough abrasion conditions, off-shore applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

**CONTINUOUS SERVICE TEMPERATURE RANGE**

-40 °C, -40 °F  
121 °C, 250 °F

**TUBE**

Oil resistant synthetic rubber

**REINFORCEMENT**

Six high tensile steel spirals (DN 25-76). Four high tensile steel spirals (DN 19)

**COVER**

STRONG - TYPE "SD"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance

**APPLICABLE SPECS**

Manuli® Design exceeds ISO 3862 R15

**TYPE APPROVALS**

ABS; FRAS; CU-TR; MSHA; MA

# XTRAFLOW/2WB

HIGH FLOW RATES, LOW PRESSURE DROPS



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01129063*	63	-40	2.1/2"	75.8	2.98	78.5	3.09	105	1,520	420	6,090	510	20.08	3,531	2.37	SP+M05400-40	
H01129076*	76	-48	3"	89.0	3.50	93.6	3.69	80	1,160	320	4,640	510	20.08	4,976	3.34	SP+M05400-48	
H01129089*	89	-56	3.1/2"	102.2	4.02	107.4	4.23	35	500	140	2,030	710	27.95	5,530	3.72	SP+M05400-56	

### KEY FEATURES

- Low pressure drops even with high flow rates
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance and electrical antistatic properties of the cover
- High working pressure associated to high flow rates
- Vacuum resistance with SAE 100 R4 performance

### APPLICATIONS & FLUIDS

- Medium-Low pressure hydraulic lines with high flow rates, specific installations with severe abrasion conditions, marine applications, underground and open pit mining, return and suction lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel wire braids

### COVER

S.H.A.R.C.  
Synthetic rubber with very high abrasion, ozone and weather resistance

### APPLICABLE SPECS

Extension EN 857-2SC, ISO 11237-2SC

### TYPE APPROVALS

CU-TR; MSHA; ABS; DNV-GL; FRAS; MA

# XTRAFLOW/4WS

HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10091063*	63	-40	2.1/2"	77.5	3.05	81.5	3.21	140	2,030	700	10,150	700	27.56	5,890	3.96	SP+M05400-40	
H10091076*	76	-48	3"	87.8	3.46	92.2	3.63	105	1,520	525	7,610	700	27.56	5,367	3.61	SP+M05400-48	
H10091089*	89	-56	3.1/2"	103.7	4.08	108.7	4.28	80	1,160	400	5,800	800	31.50	8,187	5.50	SP+M05400-56	
H10091102*	102	-64	4"	120.0	4.72	126.0	4.96	35	500	140	2,030	900	35.43	10,210	6.86	SP+M05400-64	

## KEY FEATURES

- Low pressure drops even with high flow rates
- Extreme abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic cover
- Superior pressure rating
- Structure robustness for tough handling

## APPLICATIONS & FLUIDS

- General hydraulics with high flow rates, mine hydraulic return lines, long wall water lines
- Mineral oils, vegetable oils and synthetic ester based oils, glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel wire spirals

## COVER

S.H.A.R.C.  
Synthetic rubber with very high abrasion, ozone and weather resistance

## APPLICABLE SPECS

Manuli® Design

## TYPE APPROVALS

CU-TR; MSHA; ABS; DNV-GL

# XTRAFLOW/HT

HIGH TEMPERATURE SUCTION & RETURN LINES



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01128063*	63	-40	2.1/2"	75.8	2.98	78.5	3.09	35	500	140	2,030	254	10.00	3,589	2.41	MF+M03400-40	
H01128076*	76	-48	3"	87.8	3.46	90.5	3.56	35	500	140	2,030	355	13.98	3,291	2.21	MF+M03400-48	
H01128089*	89	-56	3.1/2"	102.2	4.02	106.0	4.17	35	500	140	2,030	475	18.70	5,708	3.84	MF+M03400-56	

### KEY FEATURES

- Vacuum resistance exceeding SAE 100R4 performance
- Extreme high temperature and heat aging resistance
- High flow rates
- Reduced bend radii compared to SAE 100R4

### APPLICATIONS & FLUIDS

- Suction and return lines in hydraulic systems with high temperature fluids, low pressure hydraulic systems in mining equipment.
- Mineral oils, glycols and polyglycols, transmission fluids, mineral oils in aqueous emulsion (up to 212°F 100°C), air with oil vapours.

### CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F

135 °C, 275 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two wire braids of high tensile steel wire

### COVER

STANDARD - TYPE "XT"

Synthetic rubber with high ozone, weather and heat resistance

### APPLICABLE SPECS

Manuli® Design

### TYPE APPROVALS

CU-TR; MSHA; ABS; DNV-GL



# XTRAFLOW/HTEX

## HIGH TEMPERATURE SUCTION & RETURN LINES



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01161063*	63	-40	2.1/2"	73.3	2.89	76.7	3.02	35	500	140	2,030	400	15.75	2,502	1.68	MF+M03400-40	

### KEY FEATURES

- Vacuum resistance exceeding SAE 100R4 performance
- Extreme high temperature and heat aging resistance
- High flow rates
- Reduced bend radii compared to SAE 100R4
- Easier heat dissipation

### APPLICATIONS & FLUIDS

- Suction and return lines in hydraulic systems with high temperature fluids, low pressure hydraulic systems in mining equipment.
- Mineral oils, glycols and polyglycols, transmission fluids, mineral oils in aqueous emulsion (up to 212°F 100°C), air with oil vapours.

### CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F  
135 °C, 275 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One wire braid of high tensile steel wire

### COVER

Black textile braid with high ozone, weather and heat resistance

### APPLICABLE SPECS

Manuli® Design



**GLOBAL STD. ● HI-GRADE ● PREMIUM**

# HERCULES/HT

HEAVY DUTY FOR GIANT EQUIPMENT



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10125031*	31	-20	1,1/4"	47.7	1.88	50.9	2.00	420	6,090	1,680	24,360	400	15.75	4,175	2.81	IP+M01850-20	
H10125038*	38	-24	1.1/2"	55.2	2.17	58.7	2.31	420	6,090	1,680	24,360	450	17.72	5,195	3.49	IS+M02700-24	
H10125051*	51	-32	2"	68.9	2.71	72.4	2.85	420	6,090	1,680	24,360	500	19.69	7,265	4.88	IS+M02700-32	

## KEY FEATURES

- Robustness and durability - longer than 1 year on "hump hose" applications
- Bend radius exceeds standard requirements by -30% to -50%
- Good flexibility across the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Heavy duty power lines
- Hump hoses on giant excavators
- Long durability due to special tube compound
- Applications with long assemblies with self-standing capacity
- Applications with installation constraints (short assemblies, compact spaces, low bend radii etc.)
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F  
135 °C, 275 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Six high tensile steel wire spirals

## COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

ISO 18752-D Ext., exceeds SAE J517 R15

## TYPE APPROVALS

MSHA; CU-TR

## REMARKS



- Hercules/HT is enhanced by new HSSL heat shrinkable sleeves (optional). These heat shrinkable sleeves protect the ferrule from dirt inclusion and moisture ingress under the ferrule. Sleeves are made with heat shrinkable material, which is self-extinguishing and provides low voltage electrical insulation, provide the best possible protection with high abrasion resistance.

# FIREEND

## FIRE SUPPRESSION SYSTEMS



### TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01124006*	6	-4	1/4"	11.0	0.43	13.0	0.51	225	3,260	900	13,050	100	3.94	220	0.15	MF+M03400-04	OPF-04
H01124010*	10	-6	3/8"	15.0	0.59	17.0	0.67	180	2,610	720	10,440	127	5.00	325	0.22	MF+M03400-06	OPF-06
H01124012*	12	-8	1/2"	18.1	0.71	20.1	0.79	160	2,320	640	9,280	178	7.01	410	0.28	MF+M03400-08	OPF-08
H01124019*	19	-12	3/4"	25.3	1.00	27.9	1.10	105	1,520	420	6,090	240	9.45	660	0.44	MF+M03400-12	OPF-12
H01124025*	25	-16	1"	33.1	1.30	35.7	1.41	88	1,270	350	5,070	300	11.81	980	0.66	MF+M03400-16	

### KEY FEATURES

- SAE 100R1AT and ISO-1SN rated working pressures
- Flame retardant red cover
- Excellent performance for standard hydraulic applications
- Embossed indelible branding
- No skive MF2000 (two-pieces) and MF3000 (one-piece) fittings

### APPLICATIONS & FLUIDS

- Use in fire suppression systems of off-road vehicles, mining equipment, stationary engines. The hose present red cover for easy identification in the fire suppression system
- Mineral oils, vegetable oils and synthetic ester based oils, glycols and polyglycols, mineral oils in aqueous emulsion, water, water based fire extinguishing agents

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high tensile steel wire braid

### COVER

Red synthetic rubber with high ozone, abrasion and weather resistance

### APPLICABLE SPECS

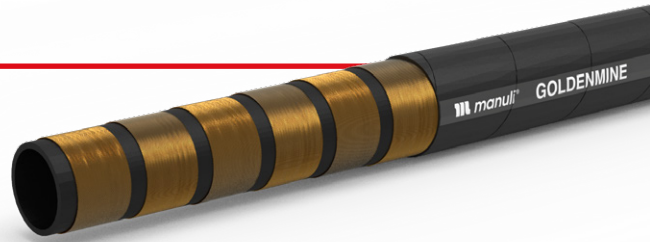
ISO 1436-1SN; SAE J517 Type 100R1AT; EN 853-1SN

### TYPE APPROVALS

MSHA; CU-TR

# GOLDENMINE

CHINA COAL MINE HYDRAULICS



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10116063*	63	-40	2.1/2"	80.6	3.17	84.8	3.34	350	5,070	1,400	20,300	800	31.50	8,105	5.45	IP+M01810-40	

## KEY FEATURES

- Very high flow rates in high pressure
- Extreme robustness of the hose structures
- Hose compact dimensions
- Approved with severe fatigue tests
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant (MSHA) and antistatic properties
- Biological and mineral oils compatibility
- Crimped InterLock Plus fitting structure

## APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines in China coal mines, hydrostatic transmissions in severe environmental conditions, specific installations with tough abrasion conditions, underground and open pit mining.
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F  
121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Six high tensile steel spirals

## COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

MT/T 98

## TYPE APPROVALS

MA; MSHA; CU-TR

## REMARKS



- The brand of the hose reports Allowable Working Pressure (AWP) 50.0 MPa (500 bar) , Safety Factor 2.8:1 according to the China Norm MT/T 98

## HOSE INSERTS

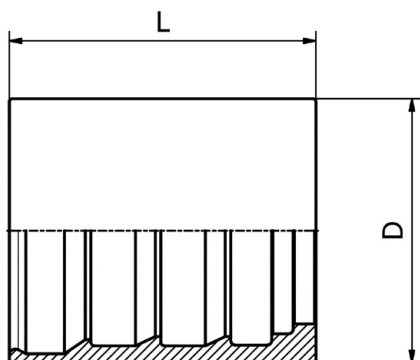
Manuli Hydraulics offer a range of staple hose inserts for wire braid or multi-spiral hose. The range extends from DN6 (1/4") up to DN76 (3") and can be manufactured in carbon steel or stainless steel. The latest release is the new Flushfit male and female staple hose insert which offers a smaller envelope and a more cost effective connection.





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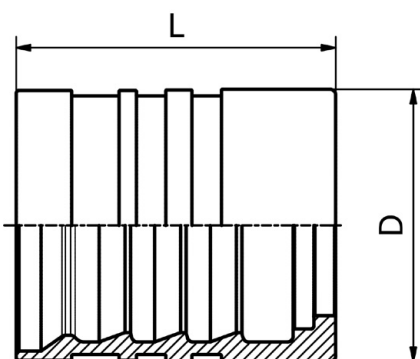


MULTIFIT FERRULE

# M00110/M00120/M00130

SKIVE FERRULE  
FOR WIRE BRAID HOSES

PART REF	HOSE BORE			DIMENSIONS	
	DASH	INCH	DN	D	L
M00120-03	5	- 3	3/16"	17.0	23.9
M00120-04	6	- 4	1/4"	19.5	28.0
M00120-05	8	- 5	5/16"	20.0	28.6
M00120-06	10	- 6	3/8"	23.0	30.0
M00120-08	12	- 8	1/2"	26.7	32.0
M00120-10	16	- 10	5/8"	32.0	38.0
M00120-12	19	- 12	3/4"	35.8	41.7
M00130-16	25	- 16	1"	43.0	47.0
M00110-20	31	- 20	1.1/4"	50.5	59.0
M00110-24	38	- 24	1.1/2"	57.0	70.0
M00110-32	51	- 32	2"	70.0	72.0



MULTIFIT FERRULE

# M00910/M00920/M00930

SKIVE FERRULE  
FOR WIRE BRAID  
AND SPIRAL HOSES

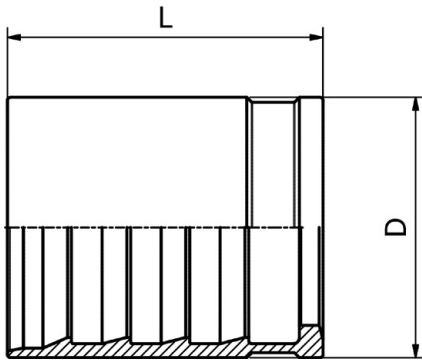
PART REF	HOSE BORE			DIMENSIONS	
	DASH	INCH	DN	D	L
M00910-03	5	- 3	3/16"	20.6	26.0
M00910-04	6	- 4	1/4"	22.0	30.0
M00910-05	8	- 5	5/16"	24.0	31.0
M00910-06	10	- 6	3/8"	26.0	33.0
M00920-06	10	- 6	3/8"	26.7	33.0
M00910-08	12	- 8	1/2"	30.0	34.0
M00910-10	16	- 10	5/8"	33.0	39.0
M00920-12	19	- 12	3/4"	38.0	40.0
M00930-16	25	- 16	1"	46.0	54.0
M00920-20	31	- 20	1.1/4"	57.0	60.0
M00910-24	38	- 24	1.1/2"	65.0	70.0
M00910-32	51	- 32	2"	79.0	72.0



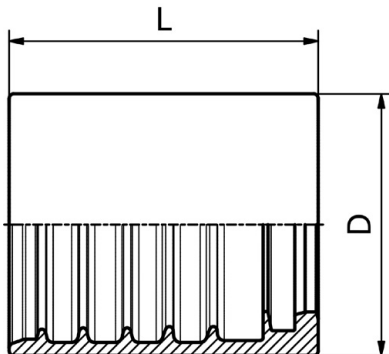
MULTIFIT FERRULE

# M00820/M00830

NO-SKIVE FERRULE  
FOR COMPACT HOSES



PART REF	HOSE BORE			DIMENSIONS	
	DASH	INCH	DN	D	L
M00820-03	5	- 3	3/16"	14.0	26.4
M00830-04	6	- 4	1/4"	18.0	29.6
M00830-05	8	- 5	5/16"	19.0	31.9
M00820-06	10	- 6	3/8"	22.0	32.9
M00820-08	12	- 8	1/2"	26.0	33.9
M00820-10	16	- 10	5/8"	29.0	35.9
M00820-12	19	- 12	3/4"	33.0	41.7
M00820-16	25	- 16	1"	41.0	49.7
M00820-20	31	- 20	1.1/4"	48.0	57.0
M00820-24	38	- 24	1.1/2"	55.5	66.0
M00820-32	51	- 32	2"	68.6	70.0



MULTIFIT FERRULE

# M03300

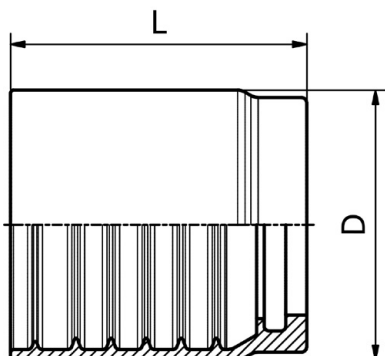
NO-SKIVE FERRULE  
FOR WIRE BRAID HOSES

PART REF	HOSE BORE			DIMENSIONS	
	DASH	INCH	DN	D	L
M03300-03	5	- 3	3/16"	19.2	22.0
M03300-04	6	- 4	1/4"	20.5	27.5
M03300-05	8	- 5	5/16"	22.8	28.5
M03300-06	10	- 6	3/8"	25.0	30.0
M03300-08	12	- 8	1/2"	28.0	33.0

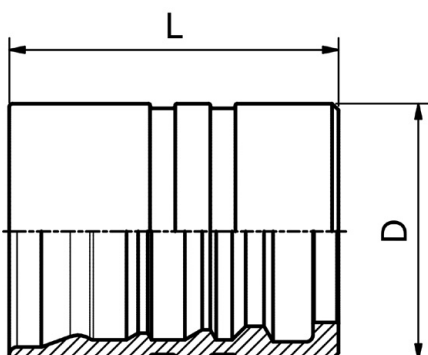
MULTIFIT FERRULE

# M03400/M03450

NO-SKIVE FERRULE  
FOR WIRE BRAID HOSES



PART REF	HOSE BORE			DIMENSIONS	
	DASH	INCH	DN	D	L
M03400-03	5	- 3	3/16"	21.0	23.0
M03400-04	6	- 4	1/4"	23.0	30.1
M03400-05	8	- 5	5/16"	24.0	30.0
M03400-06	10	- 6	3/8"	26.0	31.1
M03400-08	12	- 8	1/2"	29.0	34.0
M03450-08	12	- 8	1/2"	30.3	31.0
M03400-10	16	- 10	5/8"	33.0	37.0
M03400-12	19	- 12	3/4"	37.0	42.0
M03400-16	25	- 16	1"	46.0	50.7
M03400-20	31	- 20	1.1/4"	59.0	57.2
M03400-24	38	- 24	1.1/2"	67.0	64.8
M03400-32	51	- 32	2"	80.0	68.3
M03400-38	60	- 38	2.3/8"	82.5	69.0
M03400-40	63	- 40	2.1/2"	88.2	68.8
M03400-48	76	- 48	3"	103.0	75.0
M03400-56	89	- 56	3.1/2"	123.4	91.0
M03400-64	102	- 64	4"	131.0	93.0



INTERLOCK PLUS FERRULE

# M01500

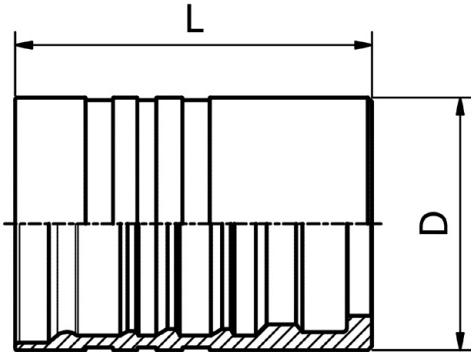
DOUBLE SKIVE FERRULE  
FOR HEAVY DUTY SPIRAL HOSES (4 PLY)

PART REF	HOSE BORE			DIMENSIONS	
	DASH	INCH	DN	D	L
M01500-10	16	- 10	5/8"	35.0	40.9
M01500-12	19	- 12	3/4"	40.0	51.4
M01500-16	25	- 16	1"	48.0	64.5
M01500-20	31	- 20	1.1/4"	57.0	84.0
M01500-24	38	- 24	1.1/2"	64.3	94.0
M01500-32	51	- 32	2"	83.5	107.0
M01500-40	63	- 40	2.1/2"	100.0	135.0
M01500-48	76	- 48	3"	107.0	125.0

INTERLOCK PLUS FERRULE

# M01600

DOUBLE SKIVE FERRULE FOR HEAVY DUTY SPIRAL HOSES (6 PLY)

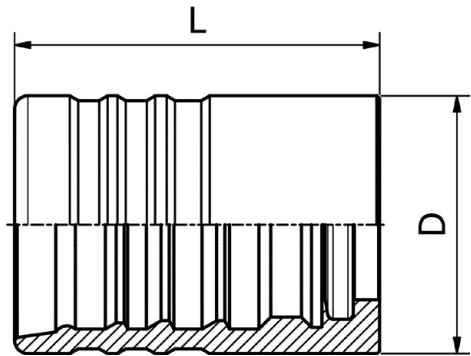


PART REF	HOSE BORE			DIMENSIONS	
	DASH	INCH	DN	D	L
M01600-20	31	- 20	1.1/4"	60.0	85.0
M01600-24	38	- 24	1.1/2"	69.0	96.0

INTERLOCK PLUS FERRULE

# M01800/M01810/M01850

DOUBLE SKIVE FERRULE FOR EXTRA DUTY SPIRAL HOSES (6 PLY)

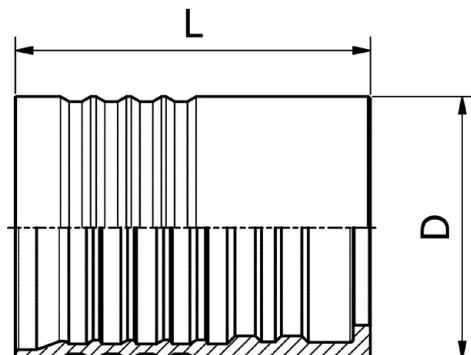


PART REF	HOSE BORE			DIMENSIONS	
	DASH	INCH	DN	D	L
M01850-12	19	-12	3/4"	45.1	51.4
M01850-16	25	-16	1"	53.5	64.5
M01850-20	31	- 20	1.1/4"	65.0	88.2
M01800-32	51	- 32	2"	86.5	108.0
M01810-40	63	- 40	2.1/2"	103.0	135.0
M01810-48	76	- 48	3"	113.5	125.0

INTERLOCK SUPER FERRULE

# M02700

DOUBLE SKIVE FERRULE FOR EXTRA DUTY SPIRAL HOSES (8 PLY)

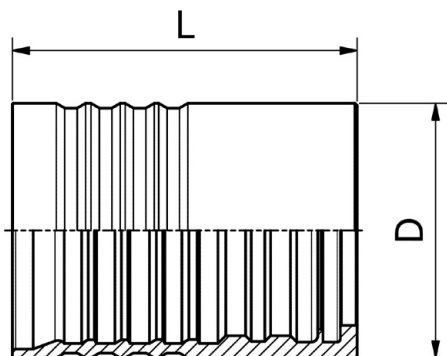


PART REF	HOSE BORE			DIMENSIONS	
	DASH	INCH	DN	D	L
M02700-24	38	- 24	1.1/2"	74.0	104.2
M02700-32	51	- 32	2"	89.0	122.0
M02700-48	76	- 48	3"	122.0	165.0

INTERLOCK SUPER FERRULE

# M02800

DOUBLE SKIVE FERRULE  
FOR HEAVY DUTY SPIRAL HOSES (8 PLY)

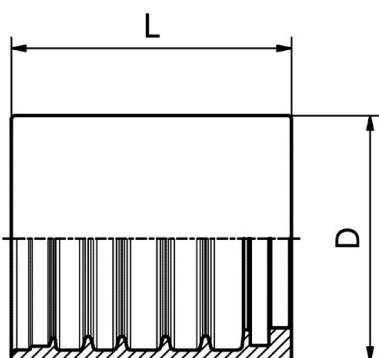


PART REF	HOSE BORE			DIMENSIONS	
	DASH	INCH	DN	D	L
M02800-48	76	- 48	3"	122.0	165.0

SPIRAL-FIT FERRULE

# M05400

NO-SKIVE FERRULE  
FOR HEAVY DUTY SPIRAL HOSES (4 PLY)

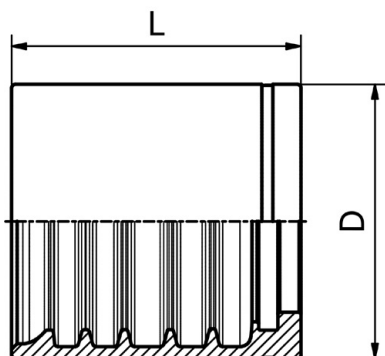


PART REF	HOSE BORE			DIMENSIONS	
	DASH	INCH	DN	D	L
M05400-10	16	- 10	5/8"	40.0	44.3
M05400-12	19	- 12	3/4"	43.8	53.3
M05400-16	25	- 16	1"	52.0	64.3
M05400-20	31	- 20	1.1/4"	59.3	72.0
M05400-24	38	- 24	1.1/2"	68.5	78.0
M05400-32	51	- 32	2"	84.6	97.1
M05400-40	63	- 40	2.1/2"	97.0	116.0
M05400-48	76	- 48	3"	109.8	124.0
M05400-56	89	- 56	3.1/2"	127.7	123.5
M05400-64	102	- 64	4"	145.0	126.5

SPIRAL-FIT FERRULE

# M05500

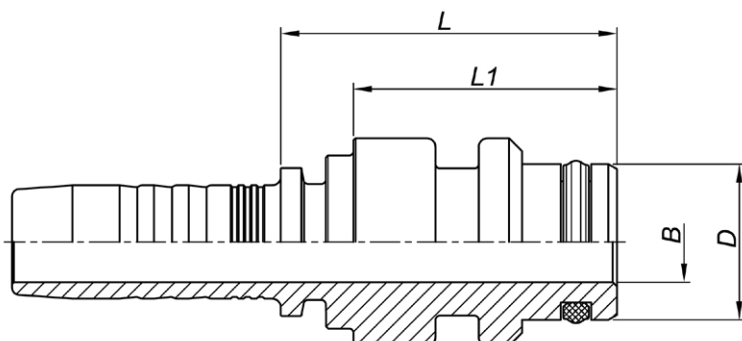
NO-SKIVE FERRULE  
FOR HEAVY DUTY SPIRAL HOSES (4-6 PLY)



PART REF	HOSE BORE			DIMENSIONS	
	DASH	INCH	DN	D	L
M05500-24	38	- 24	1.1/2"	75.0	79.0
M05500-20	31	- 20	1.1/4"	66.0	70.0
M05500-32	51	- 32	2"	90.0	98.1

# STANDARD STAPLE MALE - MULTIFIT

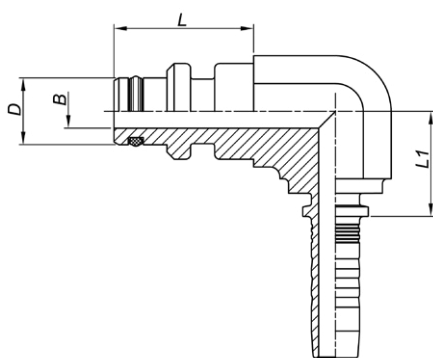
M14810



165 HOSE INSERTS

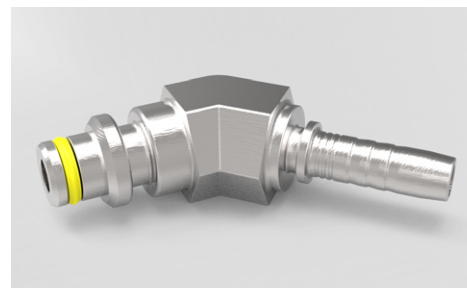
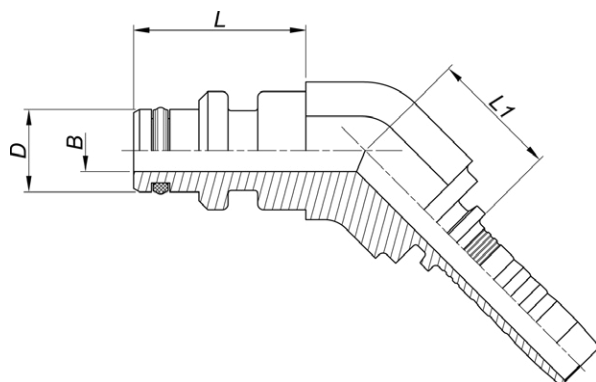
PART REF	HOSE BORE			DIMENSIONS			
	DASH	INCH	DN	B	D	L	L1
M14810-04-04	4	1/4	6	4	10	35.5	31
M14810-06-06	6	3/8	10	7	14	36.5	30
M14810-08-08	8	1/2	12	9.3	18	38.9	30.5
M14810-12-12	12	3/4	19	15	24	39.5	30.5
M14810-16-16	16	1	25	19.8	31	39.5	36
M14810-20-20	20	1.1/4	31	26	38	45.5	35
M14810-24-24	24	1.1/2	38	32	47	51.5	40
M14810-32-32	32	2	51	42	56	52.9	40
M14810-40-40	40	2.1/2	63	55.4	79	98.6	74
M14810-48-48	48	3	76	68.9	86	122.5	91

M14890



PART REF	HOSE BORE			DIMENSIONS			
	DASH	INCH	DN	B	D	L	L1
M14890-06-06	6	3/8	10	7	14	29.0	21.8
M14890-08-08	8	1/2	12	9.3	18	29.0	25.9

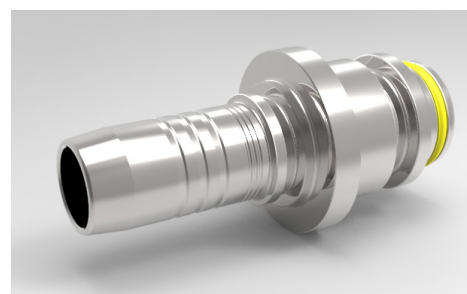
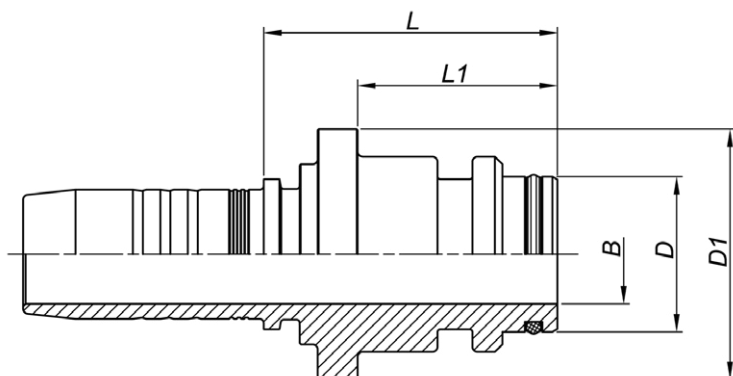
M14840



PART REF	HOSE BORE			DIMENSIONS			
	DASH	INCH	DN	B	D	L	L1
M14840-06-06	6	1	10	7	14	29.0	22.0
M14840-08-08	8	1/2	12	9.3	18	29.0	26.0

## STANDARD STAPLE MALE BEATER FLANGE - MULTIFIT

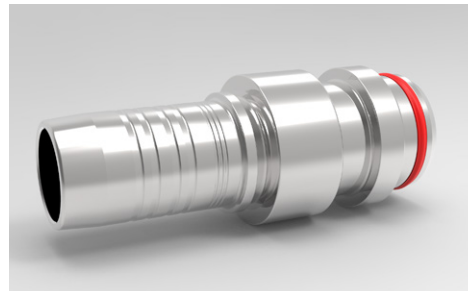
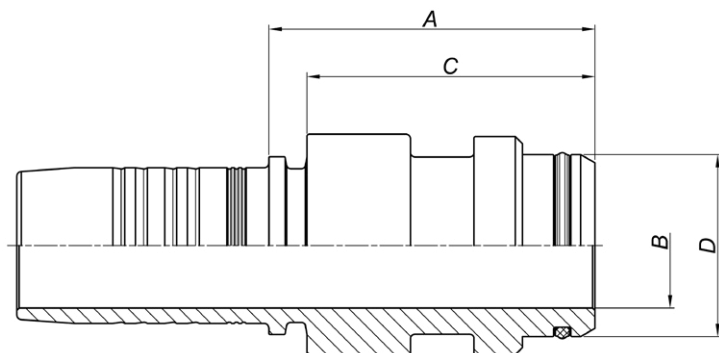
M14810



PART REF	NOMINAL BORE			DIMENSIONS				
	DASH	INCH	DN	L	L1	D	B	D1
M14810-04-04BF	4	1/4	6	45.5	32	10	4	22
M14810-06-06BF	6	3/8	10	45.5	32	14	7	30
M14810-08-08BF	8	1/2	12	47	32	18	9.3	32
M14810-12-12BF	12	3/4	19	47	32	24	15	40
M14810-16-16BF	16	1	25	59	40	31	19.8	50
M14810-20-20BF	20	1.1/4	31	61	40	38	26	60
M14810-24-24BF	24	1.1/2	38	70.5	45	47	32	70
M14810-32-32BF	32	2	51	69	45	56	42	82.5
M14810-40-40BF	40	2.1/2	63	100	79	79	60	100
M14810-48-48BF	48	3	76	127.5	100	86	68.8	112

# HIGH PERFORMANCE STAPLE MALE - MULTIFIT

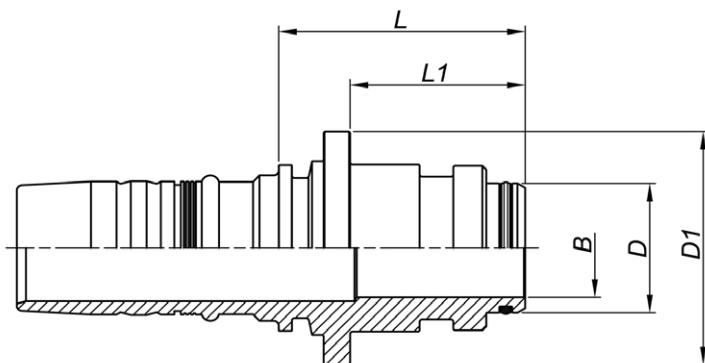
M14610



PART REF	NOMINAL BORE			DIMENSIONS			
	DASH	INCH	DN	B	A	C	D
M14610-12-12	-12	3/4 "	19	15	44.1	38	22
M14610-16-16	-16	1 "	25	22	62.2	55	31
M14610-20-20	-20	1.1/4 "	31	26	67.9	60	38

# HIGH PERFORMANCE STAPLE MALE BEATER FLANGE - INTERLOCK PLUS

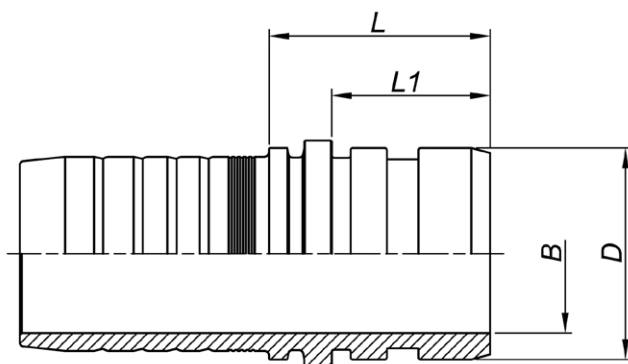
M34710



PART REF	NOMINAL BORE			DIMENSIONS				
	DASH	INCH	DN	L	L1	D	B	D1
M34710-12-12BF	12	1.1/4	19	61	41	22	14.5	45
M34710-16-16BF	16	1	25	86	58	31	19.5	60
M34710-20-20BF	20	1.1/4	31	89.5	63.5	38	25	70
M34710-24-24BF	24	1.1/2	38	92	65	44	31	80
M34710-32-32BF	32	2	51	95	67.5	50	38	90

# STANDARD FLUSHFIT STAPLE MALE - MULTIFIT

M15910



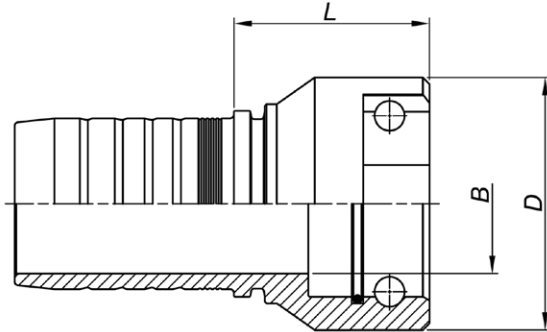
PART REF	HOSE BORE			DIMENSIONS			
	DASH	INCH	DN	L	L1	B	D
* M15910-16-16	12	1	25	55	43	19.8	31
* M15910-24-24	24	1.1/2	38	65	52	32	42
M15910-32-32	32	2	51	58.5	42	42	56
M15910-40-40	40	2.1/2	63	84	58	55.4	76
M15910-48-40	48	3	76	82	58	60	76

\* Seal Fitted to Staple Male End



# STANDARD FLUSHFIT STAPLE FEMALE - MULTIFIT

## M25910

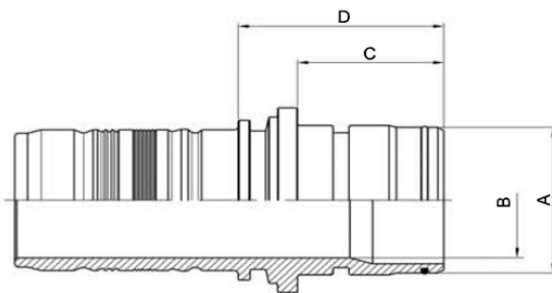


PART REF	HOSE BORE			DIMENSIONS		
	DASH	INCH	DN	B	D	L
* M25910-24-24	24	1.1/2	38	32	70	67
M25910-32-32	32	2	51	42	76	59
M25910-40-40	40	2.1/2	63	55.4	106	76
M25910-48-40	48	3	76	69	106	78

\* Seal Fitted to Staple Male End

# FLUSHFIT PLUS MALE - SPIRALFIT

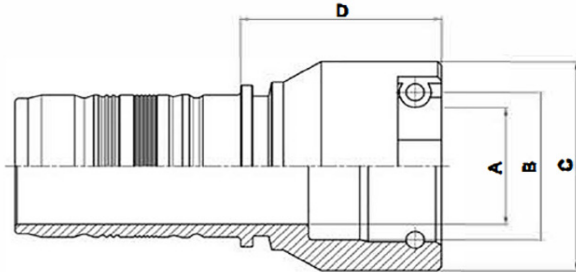
## M75910



PART REF	NOMINAL BORE			A	B	C	D	HOSE SELECTION
	DASH	INCH	DN					
M75910-48-48L	48	3	76	79.0	62.5	74.0	104.0	Xtraflow / 2WB Xtraflow / 4WS
M75910-56-56L	56	3.1/2	89	86.0	76.0	85.0	117.0	Xtraflow / 2WB Xtraflow / 4WS

# FLUSHFIT PLUS FEMALE - SPIRALFIT

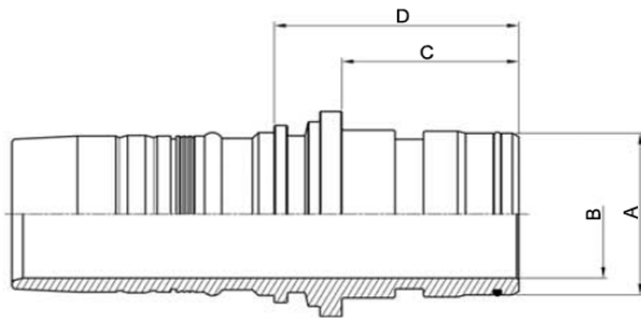
M85910



PART REF	NOMINAL BORE			A	B	C	D	HOSE SELECTION
	DASH	INCH	DN					
M85910-48-48L	48	3	76	62.5	79.0	112.0	101.0	Xtraflow / 2WB Xtraflow / 4WS
M85910-56-56L	56	3.1/2	89	76.0	86.0	132.0	112.0	Xtraflow / 2WB Xtraflow / 4WS

# FLUSHFIT PLUS EXTRA MALE - INTERLOCK PLUS

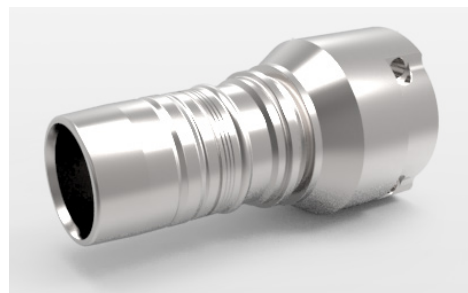
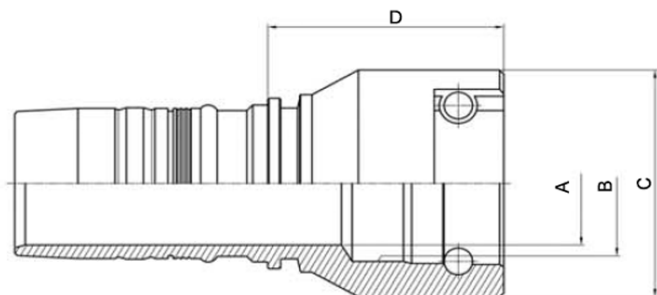
M35910



PART REF	NOMINAL BORE			A	B	C	D	HOSE SELECTION
	DASH	INCH	DN					
M35910-48-48X	48	3	76	79.0	62.5	81.0	112.0	Diamondspir/14

# FLUSHFIT PLUS EXTRA FEMALE - INTERLOCK PLUS

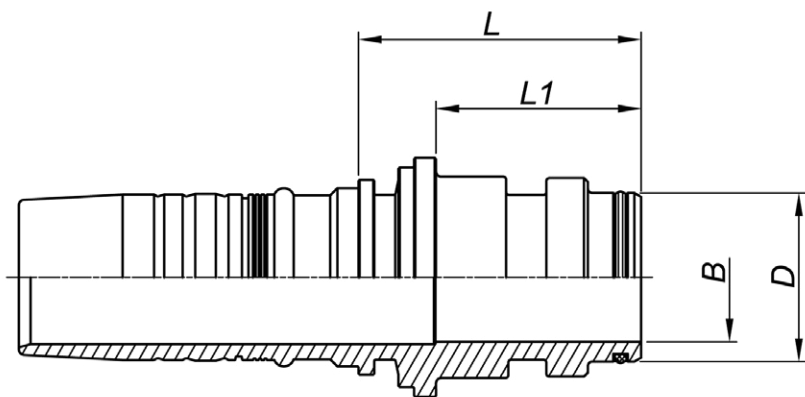
M45910



PART REF	NOMINAL BORE			A	B	C	D	HOSE SELECTION
	DASH	INCH	DN					
M45910-48-48X	48	3	76	62.5	79	115	112	Diamondspir/14

# HIGH PRESSURE FLUSHFIT MALE - INTERLOCK PLUS

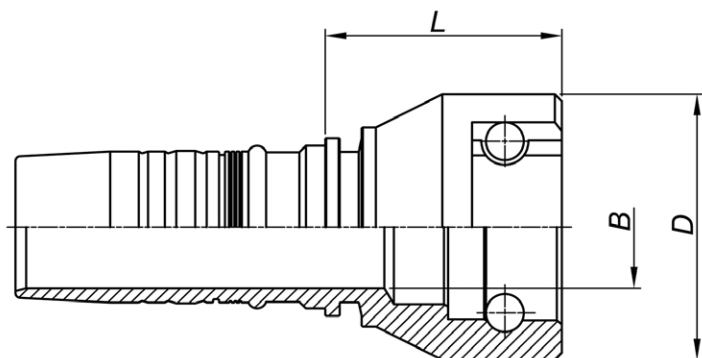
M36110



PART REF	NOMINAL BORE			DIMENSIONS			
	DASH	INCH	DN	L	L1	D	B
M36110-24-24	24	1.1/2	38	89	65	44	31
M36110-32-32	32	2	51	92	67	50	38
M36110-40-40	40	2.1/2	63	108	78	65	50
M36110-48-48	48	3	76	121	90	77	58.5

# HIGH PRESSURE FLUSHFIT FEMALE - INTERLOCK PLUS

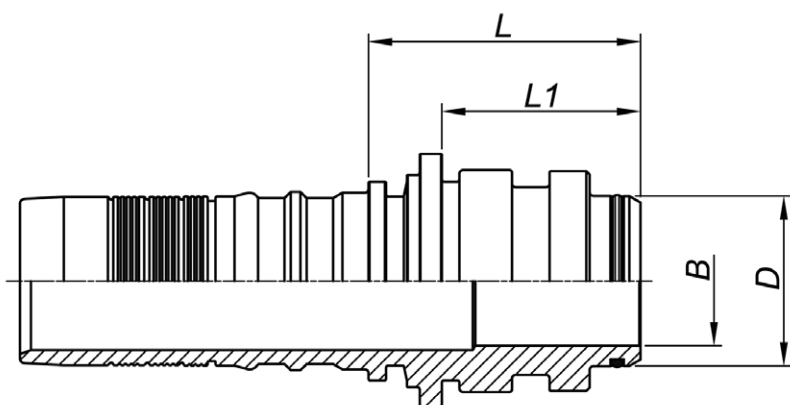
M46110



PART REF	NOMINAL BORE			DIMENSIONS		
	DASH	INCH	DN	L	B	D
M46110-24-24	24	1.1/2	38	87	31	90
M46110-32-32	32	2	51	84.5	41	100
M46110-40-40	40	2.1/2	63	100	51.5	112
M46110-48-48	48	3	76	117	62.5	146

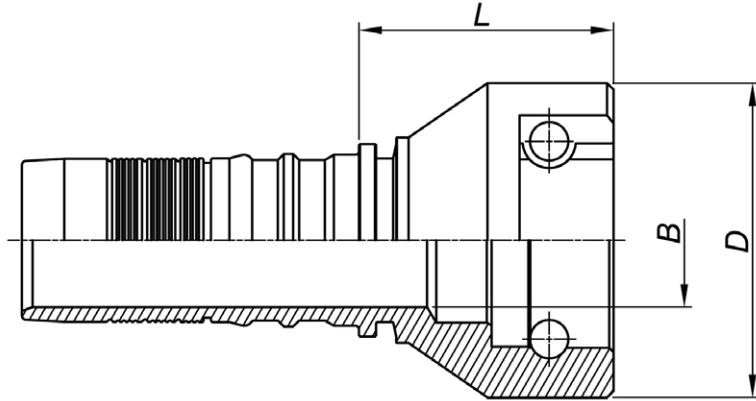
# HIGH PRESSURE FLUSHFIT MALE - INTERLOCK SUPER

MA6110



PART REF	NOMINAL BORE			DIMENSIONS			
	DASH	INCH	DN	L	L1	B	D
MA6110-24-24	-24	1.1/2"	38	93,5	65	30	44
MA6110-32-32	-32	2"	51	97	67	38	50
MA6110-48-48	-48	3"	76	123	90	58,5	77

# HIGH PRESSURE FLUSHFIT FEMALE - INTERLOCK SUPER

**MB6110**


PART REF	NOMINAL BORE			DIMENSIONS		
	DASH	INCH	DN	L	B	D
MB6110-24-24	38	1.1/2 "	-24	92.5	30	90
MB6110-32-32	50	2 "	-32	90	40	100
MB6110-48-50	78	5 "	-48	119	62.5	146

## SLIDERLOCK



*Sliderlock cover in "Locked" position*

**Manuli Hydraulics' Sliderlock is a new concept to ensure staple lock hose connection integrity.**

The spring loaded cover ensures that the staple is fully retained, even under the harshest of conditions. This unique feature enhances the staple lock design which has been in use in underground mining applications for over 50 years.

### Key Benefits

- Enhanced safety and performance
- Ensures full staple retention
- Inspection holes allow visual staple check
- Innovative design actively prevents cover disengagement during service
- Cover minimises dust ingress
- Compact, snag-free design
- The safety cover always remains on the hose
- Knurled finish for easy twist-and-click connection
- Red colour identifies high pressure lines



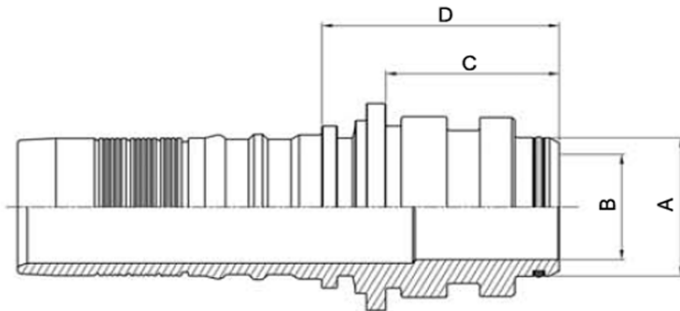
# SLIDERLOCK

PART REF	NOMINAL BORE			OD	WP (bar)	Impluse cycles
	DASH	INCH	DN			
*SLH-24	24	1	38	92	420	1.000.000
*SLH-32	32	2	51	107	420	1.000.000
*SLH-40	40	2.1/2	63	122	350	1.000.000
*SLH-48	48	3	76	152	350	1.000.000

\*fully interchangeable with SH & SHF series staple male ends

- Sliderlock design is also available on ASAF, ASAFP, ASAFPX and ASHF product ranges
- Refer to SHF28 for seals

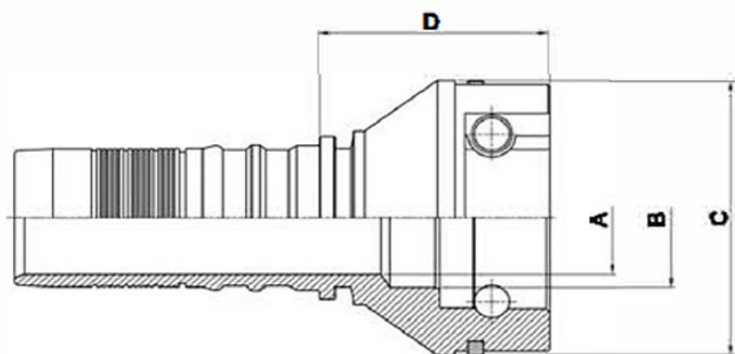
## HIGH PRESSURE SLIDERLOCK MALE - INTERLOCK SUPER MA6510



PART REF	NOMINAL BORE			A	B	C	D	HOSE SELECTION
	DASH	INCH	DN					
MA6510-48-48	48	3	76	77.0	58.5	90.0	123.0	Diamondspir/35

# HIGH PRESSURE SLIDERLOCK FEMALE - INTERLOCK SUPER

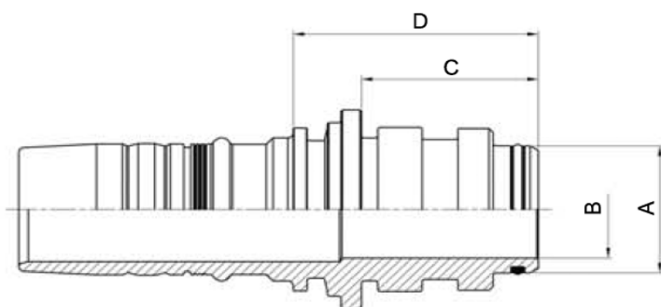
MB6510



PART REF	NOMINAL BORE			A	B	C	D	HOSE SELECTION
	DASH	INCH	DN					
MB6510-48-48	48	3	76	62.5	77.0	152.0	119.0	Diamondspir/35

# HIGH PRESSURE SLIDERLOCK MALE - INTERLOCK PLUS

M36510

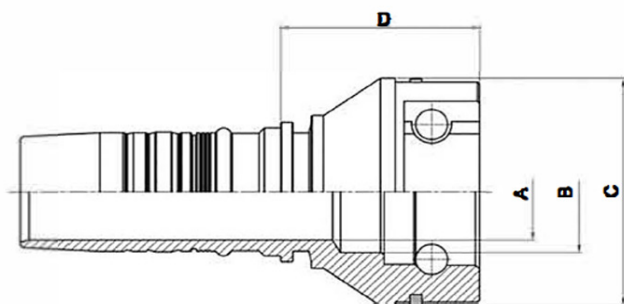


PART REF	NOMINAL BORE			A	B	C	D	HOSE SELECTION
	DASH	INCH	DN					
M36510-24-24	24	1.1/2	38	44.0	31.0	65.0	89.0	Rockmaster/4SH Rockmaster/13 Rockmaster/15
M36510-32-32	32	2	51	50.0	38.0	65.0	90.0	Rockmaster/4SH Rockmaster/13
M36510-40-40	40	2.1/2	63	65.0	49.7	78.0	108.0	Xtraflow/4WS Diamondspir/21 Diamondspir/35
M36510-48-48	48	3	76	77.0	58.5	90.0	121.0	Xtraflow/4WS Diamondspir/14 Diamondspir/21



# HIGH PRESSURE SLIDERLOCK FEMALE - INTERLOCK PLUS

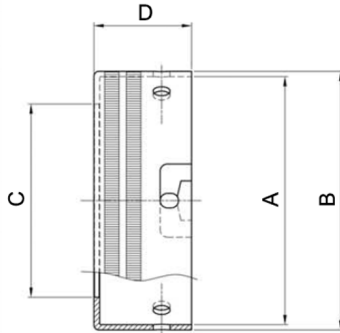
M46510



PART REF	NOMINAL BORE			A	B	C	D	HOSE SELECTION
	DASH	INCH	DN					
M46510-24-24	24	1.1/2	38	31.0	44.0	92.0	87.0	Rockmaster/4SH Rockmaster/13 Rockmaster/15
M46510-32-32	32	2	51	41.0	50.0	107.0	84.0	Rockmaster/4SH Rockmaster/13
M46510-40-40	40	2.1/2	63	51.0	65.0	122.0	100.0	Xtraflow/4WS Diamondspir/21 Diamondspir/35
M46510-48-48	48	3	76	62.5	77.0	152.0	118.0	Xtraflow/4WS Diamondspir/14 Diamondspir/21

# COVER - SLIDERLOCK - OEM SPARE COMPONENTS

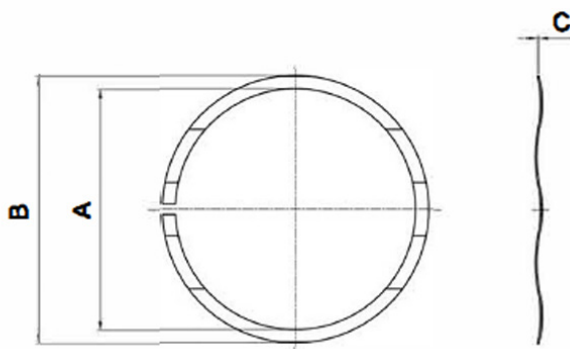
SLHC



PART REF	NOMINAL BORE			A	B	C	D
	DASH	INCH	DN				
SLHC-24	24	1.1/2	38	88.0	92.0	62.0	39.5
SLHC-32	32	2	51	102.8	107.0	80.0	40.4
SLHC-40	40	2.1/2	63	118.0	122.0	91.0	47.5
SLHC-48	48	3	76	147.7	152.0	116.0	53.7

# WAVE SPRING - SLIDERLOCK - OEM SPARE COMPONENTS

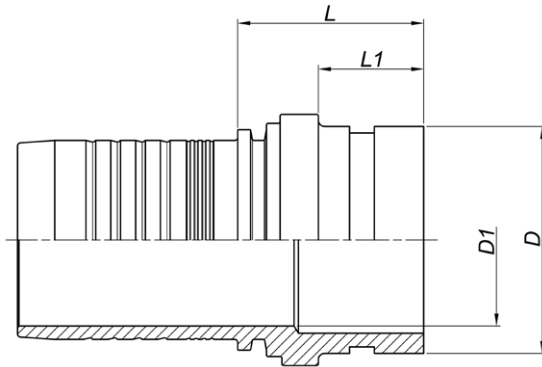
SLHWS



PART REF	NOMINAL BORE			A	B	C
	DASH	INCH	DN			
SLHWS-24	24	1.1/2	38	76.4	90.0	0.8
SLHWS-32	32	2	51	91.4	105.0	0.8
SLHWS-40	40	2.1/2	63	106.4	120.0	0.8
SLHWS-48	48	3	76	136.4	150.0	0.8

# VICTAULIC MALE GROOVE - MULTIFIT INSERT

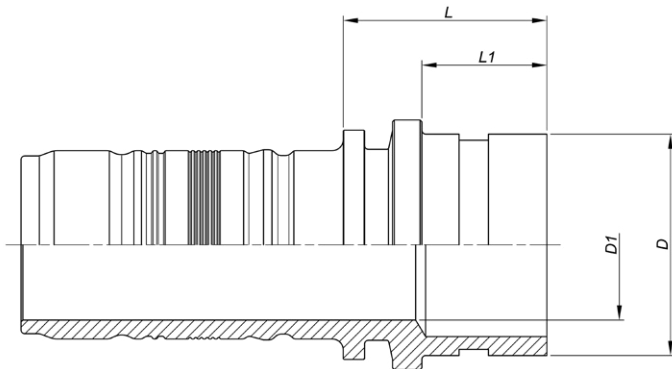
M18110



PART REF	NOMINAL BORE			L	L1	D	D1
	DASH	INCH	DN				
M18110-32-23	32	2	51	52	34	60.3	42
M18110-40-40	40	2.1/2	63	60	34	73	55.3
M18110-48-48	48	3	76	42.5	30.5	89	69

# VICTAULIC MALE GROOVE - SPIRALFIT INSERT

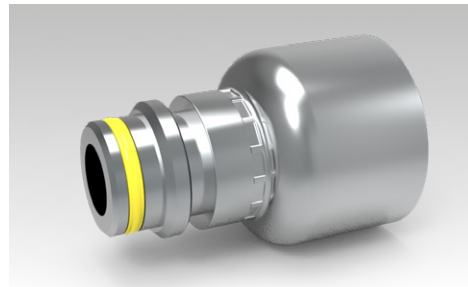
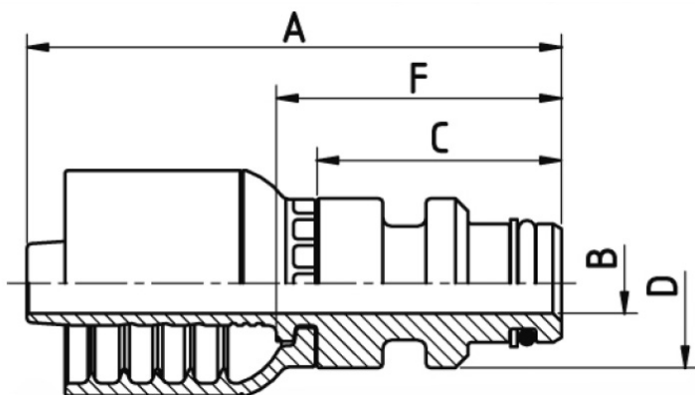
M78110



PART REF	NOMINAL BORE			L	L1	D	D1
	DASH	INCH	DN				
M78110-32-32	32	2	51	55.5	34	60.3	41
M78110-40-40	40	2.1/2	63	64	34	73	51.5
M78110-48-48	48	3	76	65	35	89	62.5

# STAPLE-LOCK MALE SAE J1467 - OPF

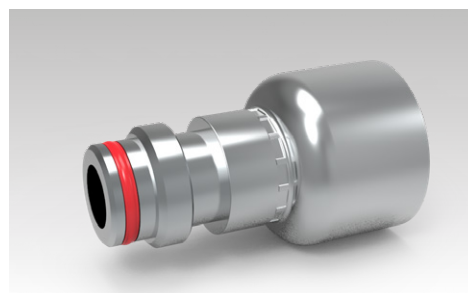
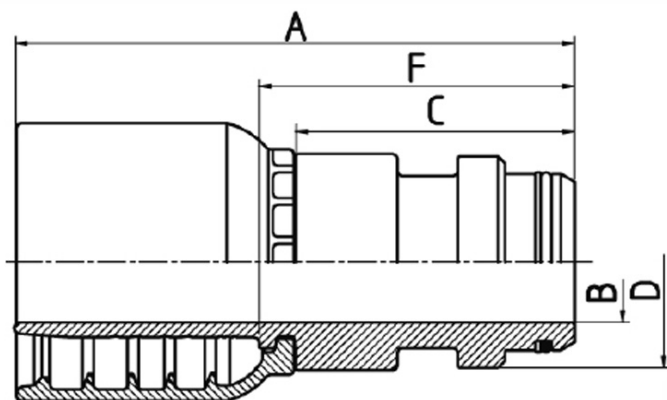
OPF14810



PART REF	NOMINAL BORE			B	A	C	D	F
	DASH	INCH	DN					
OPF14810-04A04	4	1/4	6	40	60.5	28.7	15	33
OPF14810-06A06	6	3/8	10	7	63	28.8	20	33.5
OPF14810-08A08	8	1/2	12	9.3	65	28.7	24	34
OPF14810-12A12	12	3/4	19	15	71.5	28.9	29	35
OPF14810-16A16	16	1	25	19.8	92	36.6	39	44

# SUPER STAPLE-LOCK MALE - OPK

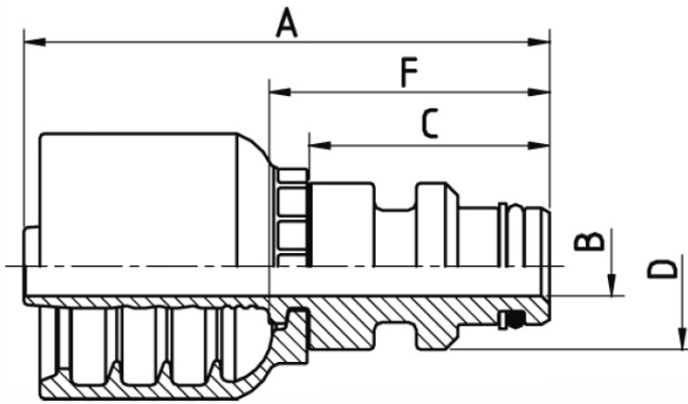
OPK14610



PART REF	NOMINAL BORE			B	A	C	D	F
	DASH	INCH	DN					
OPK14610-12A12	12	3/4	19	15	80.5	38	28.6	44
OPK14610-16A16	16	1	25	22	112	56.5	38.4	63.5
OPK14610-20A20	20	1.1/4	31	26	120.5	60	45.4	68

# STAPLE-LOCK MALE SAE J1467 - OPK

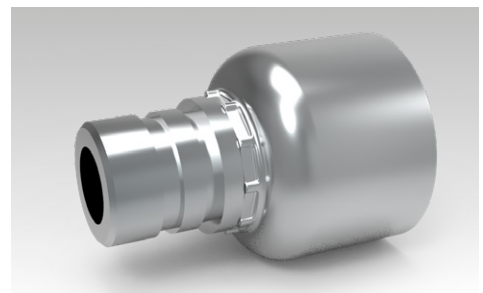
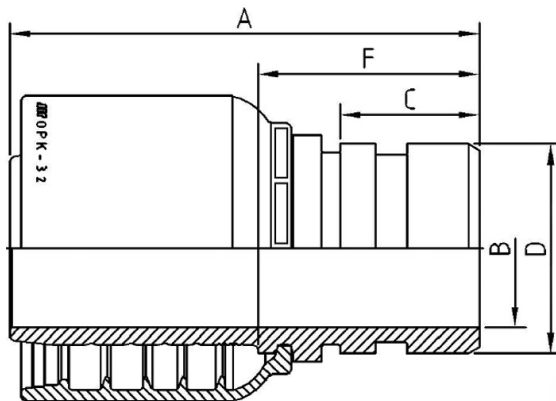
OPK14810



PART REF	NOMINAL BORE			B	A	C	D	F
	DASH	INCH	DN					
OPK14810-06A06	6	3/8	10	7	63	28.8	20	33.5
OPK14810-08A08	8	1/2	12	9.3	65	28.7	24	34
OPK14810-12A12	12	3/4	19	15	71.5	28.9	29	35
OPK14810-16A16	16	1	25	19.8	92	34.6	46	42.5
OPK14810-20A20	20	1.1/4	31	26	95	34.6	46	42.5
OPK14810-24A24	24	1.1/2	38	32	113.5	43.5	55	51.5
OPK14810-32A32	32	2	51	42	115.5	40	64	49.5

# LOW PRESSURE FLUSHFIT MALE - OPK

OPK15910

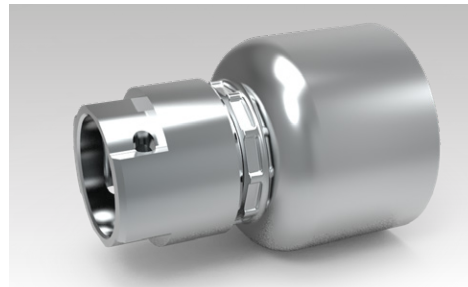
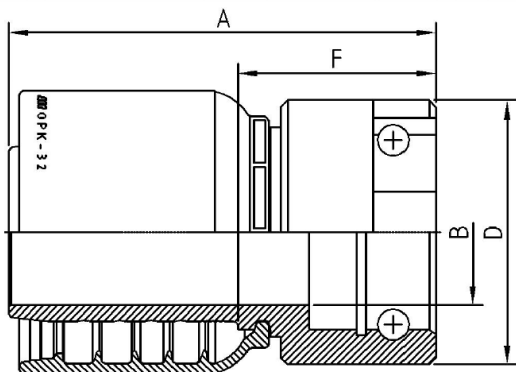


PART REF	NOMINAL BORE			B	A	C	D	F
	DASH	INCH	DN					
OPK15910-24A24	24	1.1/2	38	32	127	47	46	65
OPK15910-32A32	32	2	51	42	125	37	56	59

# LOW PRESSURE FLUSHFIT FEMALE - OPK

OPK25910

HOSE INSERTS  
182



PART REF	NOMINAL BORE			B	A	D	F
	DASH	INCH	DN				
OPK25910-24A24	24	1.1/2	38	32	129	70	67
OPK25910-32A32	32	2	51	42	123	76	57

## INTRODUCTION

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Manuli assembling machines are part of our integrated product range and are designed according to high quality standards and optimised through Manuli's extensive experience in the hydraulic market.

Manuli assembling machines are recommended for a high-performance, safe hose assembling procedure.

All Manuli assembling machines are tested and approved in both laboratory and field validation exercises.

The following index offers a guideline to aid selection of the proper machine with reference to the applications and performance requested.

Special machines (not included in this catalogue) are available upon request, as well as original spare parts.

Manuli hose and fittings products must be assembled in strict accordance with Manuli instructions and limitations.

Don't mix and match: always use Manuli original couplings and hoses.

Manuli hose, couplings and assembling machines are tested as an effective and reliable system. The use of different products and machines may cause premature hose failures, property damage, serious injury or death.

**MANULI MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND ASSUMES NO RESPONSIBILITY OR LIABILITY FOR ANY LOSS OR DAMAGE, WHETHER DIRECT, INDIRECT, CONSEQUENTIAL OR INCIDENTAL WHICH MIGHT ARISE OUT OF CRIMPED HOSE ASSEMBLIES NOT PRODUCED FROM GENUINE MANULI HOSE FITTINGS, HOSE AND EQUIPMENT, IN CONFORMANCE WITH MANULI PROCESS SPECIFICATIONS FOR EACH SPECIFIC HOSE ASSEMBLY.**

The latest edition of the Manuli crimping booklet is the only official guide to selecting proper hose and fittings combinations and for determining crimping compatibility and parameters.

## CRIMPING MACHINES EVO RANGE

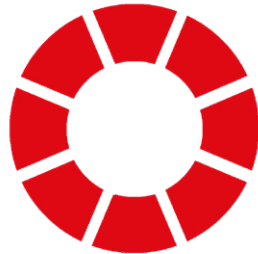
Manuli is always on the lookout for ways to improve both the efficiency and the quality of new and existing production operations.



As a market leader in assembly machines, we wanted to offer new crimping machines to improve the operator's comfort, giving more flexibility when assembling hoses. This led to the creation of the new EVO crimping machines.

These machines combine the robustness required for harsh environments with the reliability needed for busy workshops. Their compact and ergonomic design, along with the ease of set up and maintenance, make them suitable for a variety of applications.

This extensive range is highly adaptable, with various options available allowing users to customise their machine according to their specific needs.

- Extensive range for both industrial and hydraulic hoses
- 137, 240, 350 and 420 tonnes variants
- From 3/16 up to 4" hose diameter
- 4 kW or 5,5 kW motor for 3Ph



- Bluetooth connection 
- SC panel - Smart Control panel. Daily counter. Semi-automatic opening 

- SCE panel - electronic micrometer with the ability to save up to 25 configuration
- Caliper connected and numerical display of the crimping range on SCE

- Robust
- Ease of maintenance (foam pads and dust collector)
- Compatibility with all tensions (different frequencies)



- Compact and ergonomic design 
- Easy set up
- Various options available to suit our customers' needs and workshops



	MODEL	MACHINE TYPE	APPLICATION SECTOR	MACHINE PERFORMANCE	PAGE
CUTTING	M 55 CUT	Stand type cutting machine	Aftermarket service and small-medium OEM workshop	Whole hose range capacity	187
	M 75 CUT	Stand type cutting machine	Production unit	Whole hose range capacity	188
	M 90 CUT	Stand type cutting machine	Production unit	Whole hose range capacity	189
SKIVING	M 205 SKY	Stand type skive machine	Production unit	Whole hose range capacity	191
INSERT PUSHING	M 1500 INS	Benchtop coupling inserter	Production unit	Whole hose range capacity	193
	M 2000 INS	Benchtop coupling inserter	Production unit	Whole hose range capacity	194
CRIMPING	MRB 137 EVO R	Vertical Benchtop	Aftermarket service	Medium crimping force, small/medium sizes, limited productivity	195
	MB 350 EVO / MB 350 EVO L	Benchtop: very high crimp force	Aftermarket service	High crimping force, medium productivity, large size	196
	GOLDENCRIMP 420 EVO	Benchtop	Field maintenance shops, wide hose range	Very high crimping force, tough environments, large size	198
	GOLDENCRIMP 450	Benchtop	Field maintenance shops, wide hose range	Very high crimping force, tough environments, large size	200
	MV 350 / MV 350 L	Field service and mobile or container workshop	On site repair mobile van	High crimping force, limited productivity, large size	201
	MS 320	Stand-type crimp machine, SCS control	Assembling production unit, OEM and distribution	High crimping force, high productivity, large size	203
	MS 480	Stand-type crimp machine, SCS control	Assembling production unit, OEM and large bore focus	Very high crimping force, high productivity, very large opening	205
	MS 800	Stand-type crimp machine, SCS control	Assembling production unit	Very high crimping force for large bore hose focus	207
TEST BENCHES	MTB 2000 L	Stand type machine; proof pressure and certify	Production unit	Wide hose range capacity	211
	MTB 2000 XL	Stand type machine; proof pressure and certify	Production unit	Wide hose range capacity	212
DIE SETS	DIE SETS FOR CRIMPING MACHINES				213

In order to simplify the process of selecting appropriate equipment for new workshops, Manuli Hydraulics also offers a range of scaled machine modules. These modules include suitable combinations of cutting and crimping machines (and skiving where appropriate), based on the scale and planned throughput of the intended assembly operation.

MODULE		DESCRIPTION	CAPACITY	CUTTING	SKIVING	CRIMPING
M0	STATIC	Small Service Workshop	<ul style="list-style-type: none"> <li>• 1¼" 4WS</li> <li>• 25 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	M 22 CUT	M 50 SKY	MB 137 EVO
	MOBILE			M 22 CUT (12/24 V)	MH SKY	MRV 137 EVO R (12V)
M1	STATIC	Intermittent Service Workshop	<ul style="list-style-type: none"> <li>• 2" 4WS</li> <li>• 50 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	M 30 CUT L	M 50 SKY	MB 240 EVO
	MOBILE					MV 240 EVO (12/24 V or 220 V 1Ph)
M2	STATIC	Continuous Service Workshop	<ul style="list-style-type: none"> <li>• 2" 6WS - 3" 2WB</li> <li>• 100 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	M 75 CUT	M 205 SKY PLUS	GoldenCrimp/420
	MOBILE					MB 350 EVO
						MV 350 (12/24 V or 220 V 1Ph/3Ph)
						MV 420 (220 1Ph)
M3	STATIC	Container Service Workshop or Heavy Duty Workshop	<ul style="list-style-type: none"> <li>• 3" 6WS - 4" 2WB</li> <li>• 100 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	M90 CUT	M 205 SKY PLUS (with reinforced clamping system)	GoldenCrimp/450
P1	STATIC	OEM Assembly Workshop	<ul style="list-style-type: none"> <li>• 1¼" 4WS - 2" 2WB</li> <li>• &gt;100 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	M 55 CUT P	M 300 SKY	MS 140 SCS
P2	STATIC	OEM Assembly Workshop	<ul style="list-style-type: none"> <li>• 2" 4WS - 3" 2WB</li> <li>• &gt;100 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	M 55 CUT P	M 300 SKY	MS 320
P3	STATIC	OEM Assembly Workshop	<ul style="list-style-type: none"> <li>• 2" 6WS - 3" 4WS</li> <li>• &gt;100 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	M 90 CUT	M 205 SKY (With reinforced clamping system)	MS 480
P4	STATIC	XXL Assembly Workshop	<ul style="list-style-type: none"> <li>• 3" 8WS - 4" 4WS - 8" Industrial Hose</li> <li>• 50 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	MDH 15 CUT	MDH 205 SKY	MS 550 / MS 800

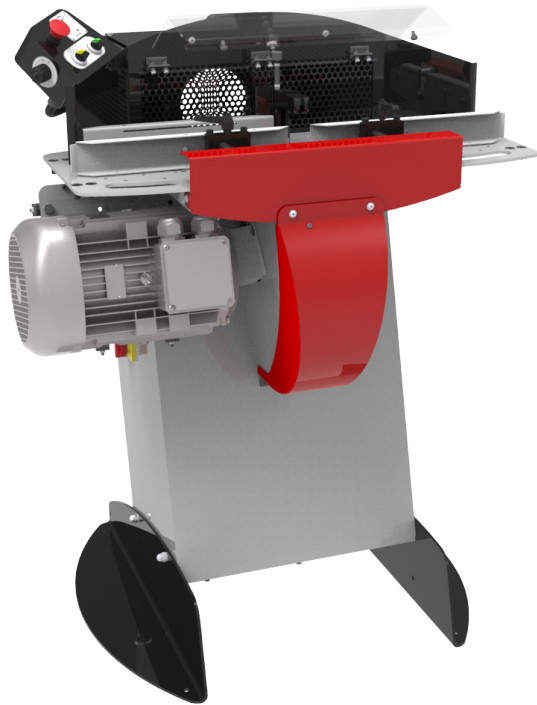
**Key**

**M** Maintenance Operations  
Intended for small or medium aftermarket, repair service

**P** Production Operations  
Intended for small/medium/large OEM activity or large production aftermarket

# M 55 CUT

FULL SERVICE WORKSHOP, STARTER PRODUCTION UNITS  
STAND TYPE CUTTING MACHINE



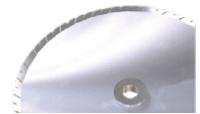
## KEY FEATURES

- Versatile, slotted blade for high performance smoke free cutting
- Ergonomic and functional design
- Double foot pedal system
- Safety cover and feeding guides for hose (easy and fast cutting operation)
- Digital counter for maintenance assistance
- Adjustable speed for cutting on pneumatic version

## STANDARD



Control Panel



Slotted Blade



Feeding Guide



Dust Collector

## TECHNICAL SPECIFICATIONS

### CAPACITY

2wb: 2" max.

4ws: 2" max.

6ws: 2" max.

Industrial: 2"

### ROTATION SPEED

3000 rpm

### SLOTTED BLADE DIAMETER

400 mm (15.7")

### MAX HOSE OD.

80 mm (3.15")

### MOTOR

7.5 kW

### VOLTAGES

220/240 V, 3Ph, 50 Hz

380/415 V, 3Ph, 50 Hz

208/240 V, 3Ph, 60 Hz

380/415 V, 3Ph, 60 Hz

### DIMENSIONS

1140 x 1000 x 1280 mm

(45 x 39 x 50")

### PACKAGING

1600 x 1200 x 1600 mm

(63 x 47 x 63")

### NET WEIGHT

240 kg (529 lb)

### GROSS WEIGHT

280 kg (617 lb)

### TECHNICAL FEATURES

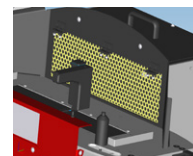
Diameter of the suction connection: 150 mm (6")

Options: Pneumatic bending system, scalloped blade

## OPTIONAL



Cutting Rail



Smoke Suction



Decoiler



DV 32



DVC

# M 75 CUT

EXPERT SERVICE LINE  
STAND TYPE CUTTING MACHINE

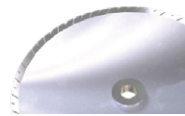


## KEY FEATURES

- Powerful
- Safety cover
- High visibility
- Suitable for cutting large bore hoses

ASSEMBLY MACHINES 188

## STANDARD



Slotted Blade

## TECHNICAL SPECIFICATIONS

### CAPACITY

- 2wb: 3" max.
- 4ws: 2" max.
- 6ws: 2" max.

### ROTATION SPEED

3000 rpm

### SLOTTED BLADE DIAMETER

520 mm (20.5") included

### MAX HOSE OD.

125 mm (5")

### MOTOR

7.5 kW

### VOLTAGES

- 220/240 V, 3Ph, 50 Hz
- 380/415 V, 3Ph, 50 Hz
- 208/240 V, 3Ph, 60 Hz
- 380/415 V, 3Ph, 60 Hz

### DIMENSIONS

910 x 820 x 1280 mm  
(36 x 32 x 50")

### NET WEIGHT

215 kg (474 lb)

### TECHNICAL FEATURES

Diameter of suction connection: 110 mm (4.33 ")

Optional tool: Brake motor, slotted disc

## OPTIONAL



Cutting Rail



Decoiler



DV 32



DVC

# M 90 CUT

EXPERT SERVICE LINE  
STAND TYPE CUTTING MACHINE



## KEY FEATURES

- Very powerful
- Heavy duty for difficult cuts
- Hydraulic bending
- Brake motor
- Electronic soft start
- Smoke suction integrated in cutting table

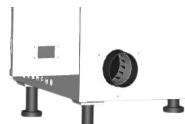
## STANDARD



Slotted Blade



Production Counters



Smoke Suction Connector



CME Electrical Foot Switch

## TECHNICAL SPECIFICATIONS

### CAPACITY

- 2wb: 3½" max.
- 4ws: 3½" max.
- 6ws: 3" max.

### ROTATION SPEED

3000 rpm

### SLOTTED BLADE DIAMETER

520 mm (20.5") included

### MAX HOSE OD.

125 mm (5")

### MOTOR

9.0 kW

### VOLTAGES

- 220/240 V, 3Ph, 50 Hz
- 380/415 V, 3Ph, 50 Hz
- 208/240 V, 3Ph, 60 Hz
- 380/415 V, 3Ph, 60 Hz

### DIMENSIONS

1000 x 1060 x 1350 mm  
(39 x 42 x 53")

### NET WEIGHT

260 kg (573 lb)

### TECHNICAL FEATURES

- Diameter of suction connection: 110 mm (4.33")
- Standard tool: Hydraulic bending, brake motor
- Optional tool: Slotted disc

## OPTIONAL



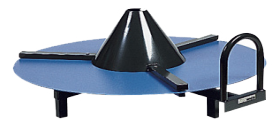
Cutting Rail



Decoiler



DV 32



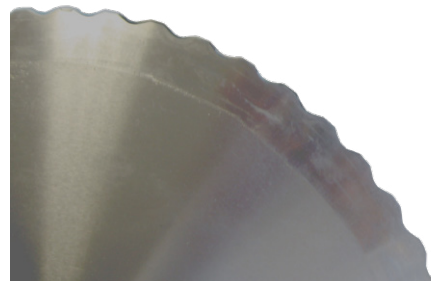
DVC

## ACCESSORIES AND TOOLS

### CUTTING DISCS

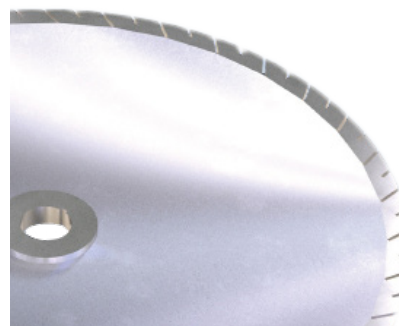
#### SCALLOPED BLADE TYPE

The scalloped blade is suitable for all hose types. It is able to reach a high quality of cutting surface and is the standard on 254 and 300 mm blades.



#### SLOTTED BLADE TYPE

The slotted blade is recommended for cutting standard and heavy duty hoses. It is ideal for continuous service, as the blade profile has been optimised to maintain a low temperature on the cutting edge. This blade provides an extended operational life of up to 2 times that of the previous blade, and is the standard on 400 and 520 mm blades.



### BRAKE MOTOR

The brake motor is a device which stops the disc immediately when the stop button is pushed.

### PNEUMATIC BENDING

Available on M 75 CUT and M 55 CUT.

Pneumatic bending facilitates cutting, as the operator does not have to force the hose on the blade. The pneumatic system, activated by a foot switch, offers hands free operation. This is the same principle for the hydraulic bending on M 90 CUT.

# M 205 SKY

## STARTER & PROFESSIONAL WORKSHOP STAND TYPE SKIVING MACHINE



### KEY FEATURES

- Plug'n skive system
- Large dust collector
- Robust & easily adjustable knife for quick and easy changeover
- Suitable for high volume production
- 2-way rotation

### TECHNICAL SPECIFICATIONS

#### CAPACITY

2wb: 3" max. with optional tools  
4ws: 3" max. with optional tools  
6ws: 3" max. with optional tools

#### ROTATION SPEED

205 rpm

#### MOTOR

0.9 kW

#### VOLTAGES

220/240 V, 3Ph, 50 Hz  
380/415 V, 3Ph, 50 Hz  
208/240 V, 3Ph, 60 Hz  
380/415 V, 3Ph, 60 Hz

#### DIMENSIONS

675 x 550 x 1130 mm  
(27 x 22 x 44")

#### PACKAGING

800 x 600 x 1200 mm  
(32 x 24 x 47")

#### NET WEIGHT

100 kg (220 lb)

#### GROSS WEIGHT

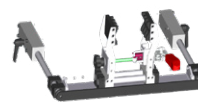
160 kg (353 lb)

#### TECHNICAL FEATURES

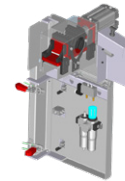
Options available: speed regulator, hose clamping system (limited to distribution workshop using sizes under 2")

Tools available (to be ordered separately):  
ESA, IS, ESP1, ESP2

### OPTIONAL



Manual Hose Clamping System



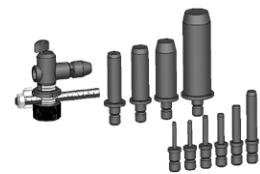
Pneumatic Hose Clamping System



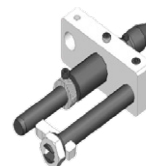
Speed Regulator



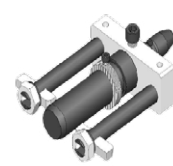
Tool Kit IS



Tool Kit ESE



Tool Kit ESP 1



Tool Kit ESP 2



## ACCESSORIES AND TOOLS

### EXTERNAL SKIVING TOOLS

Manuli Hydraulics offers 2 types of external skiving tools for the M 205 SKY:

#### ESA (External Skiving Adjustable)

The ESA kit includes 11 mandrels:  $\frac{3}{16}$ " ,  $\frac{1}{4}$ " ,  $\frac{5}{16}$ " ,  $\frac{3}{8}$ " ,  $\frac{1}{2}$ " ,  $\frac{5}{8}$ " ,  $\frac{3}{4}$ " , 1" ,  $1\frac{1}{4}$ " ,  $1\frac{1}{2}$ " , 2"

ESA mandrels are also available in  $2\frac{1}{2}$ " and 3"

#### ESP (External Skiving Production)

ESP tools are individual 'skiving heads' intended to be pre-set to the right depth and length for greater productivity. They are recommended for batch skiving operations and a second knife can be added for abrasion resistant covers.

ESP is available in:  $\frac{3}{16}$ " ,  $\frac{1}{4}$ " ,  $\frac{5}{16}$ " ,  $\frac{3}{8}$ " ,  $\frac{1}{2}$ " ,  $\frac{5}{8}$ " ,  $\frac{3}{4}$ " , 1" ,  $1\frac{1}{4}$ " ,  $1\frac{1}{2}$ " , 2" ,  $2\frac{1}{2}$ " and 3"

### INTERNAL SKIVING TOOLS

#### IS (Internal Skiving)

The IS kit includes 7 mandrels:  $\frac{1}{2}$ " ,  $\frac{5}{8}$ " ,  $\frac{3}{4}$ " , 1" ,  $1\frac{1}{4}$ " ,  $1\frac{1}{2}$ " , 2"

They are also available in  $\frac{5}{8}$ " ,  $2\frac{1}{2}$ " and 3"

The ring is heat treated to resist the abrasion of the hose wires.

Optional venturi system with IS tool.

### HOSE CLAMPING SYSTEM

Recommended for skiving hoses over 2" (DN 50)

### PLUG N'SKIVE SYSTEM

All Manuli Hydraulics skiving machines are equipped with the Plug'n Skive System which allows the quick and easy insertion of tools.

With the Plug n'Skive System no tools are needed to insert the skiving mandrel, simply push the mandrel into the locking system to unlock it, lift a knob and pull out the tool.

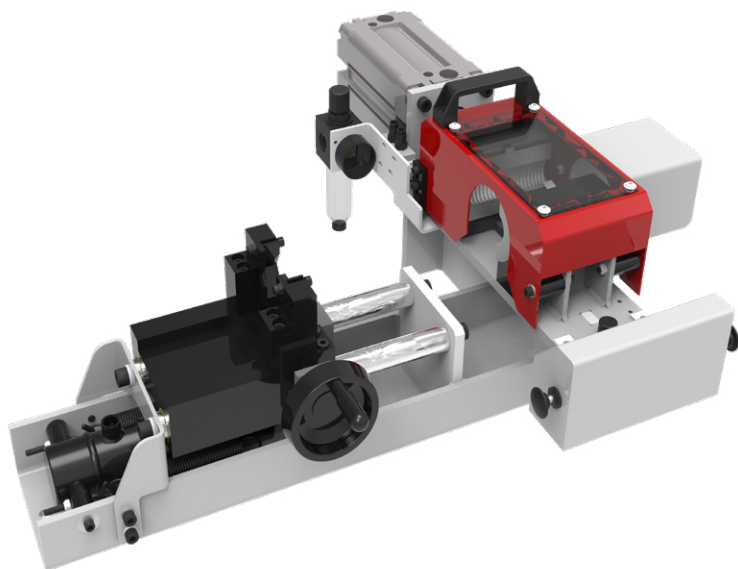


# M 1500 INS

EXPERT SERVICE LINE  
BENCHTOP COUPLING INSERTER

## KEY FEATURES

- Compact
- Sturdy
- Powerful
- Hydro pneumatic power pack



## TECHNICAL SPECIFICATIONS

### CAPACITY

2wb: 2" max.

4ws: 2" max.

6ws: 2" max.

### DIMENSIONS

750 x 660 x 300 mm

(30 x 26 x 12")

### NET WEIGHT

70 kg (154 lb)

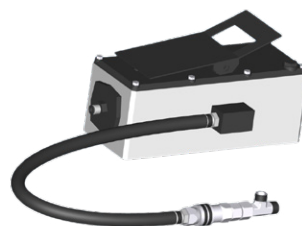
### POWER SUPPLY

Compressed air (7 bar)

### TECHNICAL FEATURES

Optional tool: for small bore  
1/4", 3/8", 1/2" shell

## STANDARD



Hydro-pneumatic Pump

# M 2000 INS

## EXPERT SERVICE LINE BENCHTOP COUPLING INSERTER

### KEY FEATURES

- Compact
- Sturdy
- Powerful
- Manual insert centring device
- Joystick operated clamping and insertion



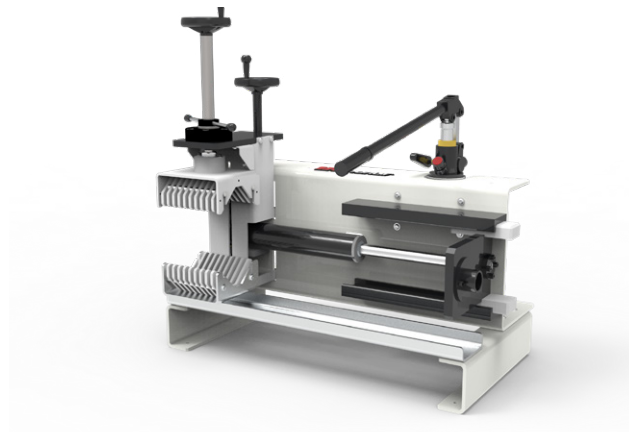
ASSEMBLY MACHINES 194

### TECHNICAL SPECIFICATIONS

<b>CAPACITY</b>	<b>MAXIMUM FLANGE</b>
76 mm - 170 mm OD Hose	250 mm
<b>DIMENSIONS</b>	<b>INSERTION FORCE</b>
800 x 500 x 900 mm (31 x 20 x 35")	20,000 N
<b>NET WEIGHT</b>	<b>INSERTION STROKE</b>
150 kg (330 lb)	300 mm
<b>VOLTAGES</b>	<b>INSERTION SPEED *</b>
380/415 V, 3Ph, 50 Hz	28 mm/s
<b>POWER</b>	<b>CLAMPING LENGTH</b>
1.5kW	200 mm

### OPTIONS

Manual version available



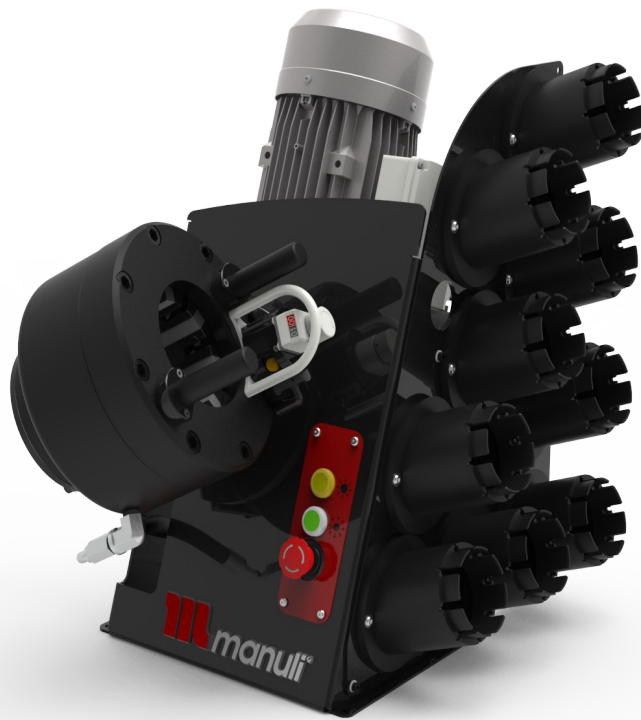
\* Electrical version only

# MRB 137 EVO R

## MAINTENANCE WORKSHOP VERTICAL BENCHTOP

### KEY FEATURES

- Ergonomically positioned adjustable head
- Axis of the head situated perpendicular to the operator
- Compact
- Optional quick change tool for dies
- Range of standard dies available



### OPTIONAL



Maintenance Kit



Die Storage Panel



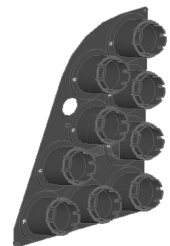
Die Storage Table



Quick Change Gun



Aluminium Quick Change Gun



Die Storage Panel EVO R

### TECHNICAL SPECIFICATIONS

**CRIMP RANGE**

6 to 56 mm (0.517 - 2.205")

**CRIMP FORCE**

137 t

**OPENING WITH DIES**

+28 mm (+1.102")

**COMPLETE OPENING**

100 mm (3.937")

**MASTER DIE LENGTH**

75 mm (2.953")

**STANDARD DIES**

15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51

**NOISE LEVEL**

70 dB A

**MOTOR**

1.5 kW (110V)

2.2 kW (230V)

**VOLTAGES**

110 V, 1Ph, 60 Hz

220/240 V, 1 Ph, 50 Hz

380/415V, 3 Ph + N, 50 Hz

+12/24

Other voltages available on request

**DIMENSIONS**

360 x 530 x 620 mm

(14 x 21 x 25")

**NET WEIGHT**

85 kg (187 lb)

**GROSS WEIGHT**

89 kg (196 lb)

### HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	1 ¼"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT	1 ¼"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK	1 ¼"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	¾"
4 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	¾"

# MB 350 EVO / MB 350 EVO L

FULL SERVICE WORKSHOP  
BENCHTOP; VERY HIGH CRIMP FORCE

ASSEMBLY MACHINES 196



## KEY FEATURES

- Crimp force of up to 350 tonnes for hoses up to 3"
- Easy to use and robust
- Automatic maintenance alerts
- Groove for 90° long drop fittings
- Also available as S CRIMP 350 L with 4.0 kW motor
- Numerical micrometer
- Model shown equipped with SCS control panel
- Calliper option on SCE control panel
- Bluetooth as standard on SC and SCE control panels



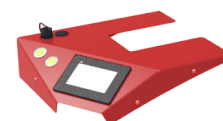
## CONTROL OPTIONS AVAILABLE ON REQUEST



SC



SCE



SCS

## TECHNICAL SPECIFICATIONS

### CRIMP RANGE

4 - 130 mm (0.157 - 5.118")

### CRIMP FORCE

350 t

### OPENING WITH DIES

+54 mm (+2.125")

### COMPLETE OPENING

180 mm (7.086")

### MASTER DIE LENGTH

115 mm (4.523")

### STANDARD DIES

15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70, 73, 76

### NOISE LEVEL

<70 dB A

### MOTOR

5.5 kW / 4 kW

### VOLTAGES

220/240 V, 3Ph, 50 Hz

380/415 V, 3Ph, 50 Hz

208/240 V, 3Ph, 60 Hz

380/415 V, 3Ph, 60 Hz

### DIMENSIONS

765 x 400 x 750 mm

(30 x 16 x 30")

### NET WEIGHT

262 kg (578 lb)

### TECHNICAL FEATURES

- Automatic maintenance alerts
- Cylinder protection against dust - durable design
- Also available as S CRIMP 350 EVO L with 4.0 kW Motor

## OPTIONAL



Maintenance Kit



Marking Dies



Die Storage Panel



Die Storage Table



Electrical Footswitch



Quick Change Gun



Aluminium Quick Change Gun



Mechanical Backstop



Die Sets for Brake & Air Conditioning Hoses



Die Storage Panel EVO

**MB 350 EVO / MB 350 EVO L**

**FULL SERVICE WORKSHOP  
BENCHTOP; VERY HIGH CRIMP FORCE**

HOSE AND FITTINGS SELECTION		
HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	3"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	1 ¼"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT; MF3000 OPK	2"
5 WIRE (4 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	1 ¼"
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK SUPER	1 ½"
6 WIRE SPIRALS (350 BAR / 5000psi)	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	2"
6 WIRE SPIRAL (420 BAR / 5000psi)	MF2000 INTERLOCK PLUS; MF2000 INTERLOCK SUPER	1 ½"
8 WIRE SPIRALS	MF2000 INTERLOCK PLUS	1 ¼"

# GOLDENCRIMP 420 EVO

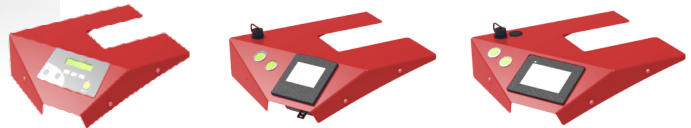
## ASSEMBLING FOR FIELD REPAIR BENCHTOP CRIMP MACHINE

### KEY FEATURES

- High crimping force of 420 tonnes
- Robust design for transport and operation in harsh environments
- Protected cylinders for trouble-free operation in high dust environments
- Large opening suitable for large bore hoses
- Easy maintenance due to foam pads and dust collector
- Numerical micrometer
- Model shown equipped with SCS control panel
- Calliper option on SCE control panel
- Bluetooth as standard on SC and SCE control panels



### CONTROL OPTIONS AVAILABLE ON REQUEST



SC

SCE

SCS

### TECHNICAL SPECIFICATIONS

**CRIMP RANGE**

4 - 130 mm (0.157 - 5.118")

**CRIMP FORCE**

420 t

**OPENING WITH DIES**

+48 mm (+1.9 inch)

**COMPLETE OPENING**

178 mm (7.0 inch)

**MASTER DIE LENGTH**

120 mm (4.724 inch)

**STANDARD DIES**

15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70, 73, 76

**NOISE LEVEL**

<70 dB A

**MOTOR**

5.5 kW

**VOLTAGES**

220/240 V, 3Ph, 50 Hz

380/415 V, 3Ph, 50 Hz

208/240 V, 3Ph, 60 Hz

380/415 V, 3Ph, 60 Hz

**DIMENSIONS**

765 x 500 x 800 mm

(30 x 20 x 32")

**PACKAGING**

745 x 1150 x 945 mm

(29 x 45 x 37")

**NET WEIGHT**

395 kg (871 lb)

### OPTIONAL



Maintenance Kit



Marking Dies



Die Storage Panel



Die Storage Table



Electrical Footswitch



Quick Change Gun



Aluminium Quick Change Gun



Die Sets for Brake & Air Conditioning Hoses



Die Storage Panel EVO

# GOLDENCRIMP 420 EVO

## ASSEMBLING FOR FIELD REPAIR BENCHTOP CRIMP MACHINE

HOSE AND FITTINGS SELECTION		
HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	4"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	1 ¼"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	3"
5 WIRE (4 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	1 ¼"
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK SUPER	1 ½"
6 WIRE SPIRALS	MF2000 INTERLOCK SUPER; MF2000 SPIRALFIT-GX; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	2"
8 WIRE SPIRALS	MF2000 INTERLOCK SUPER	1 ½"



# GOLDENCRIMP 450

## ASSEMBLING FOR FIELD REPAIR BENCHTOP CRIMP MACHINE



### KEY FEATURES

- High crimp force (450 tonnes)
- Large opening
- Wide family of dies for industrial hoses
- Long master dies
- Robust - designed for harsh environments
- Low noise level
- Easy die set-up with ergonomic gun
- Metallic guard for the set stop

### STANDARD



Electrical Footswitch

### OPTIONAL



Die Storage Panel



Die Storage Table



Die Sets for Brake & Air Conditioning Hoses



Quick Change Gun



Aluminium Quick Change Gun



Marking Dies

## TECHNICAL SPECIFICATIONS

#### CRIMP RANGE

4 - 130 mm (0.157 - 5.118")

#### CRIMP FORCE

450 t

#### OPENING WITH DIES

+70 mm (+2.755")

#### COMPLETE OPENING

197 mm (7.755")

#### MASTER DIE LENGTH

140 mm (5.512")

#### STANDARD DIES

15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70, 73, 76

#### NOISE LEVEL

<65 dB A

#### MOTOR

5.5 kW

#### VOLTAGES

220/240 V, 3Ph, 50 Hz

380/415 V, 3Ph, 50 Hz

208/240 V, 3Ph, 60 Hz

380/415 V, 3Ph, 60 Hz

#### DIMENSIONS

830 x 775 x 1450 mm

(33 x 31 x 57")

#### PACKAGING

1120 x 1020 x 1770 mm

(44 x 40 x 70")

#### NET WEIGHT

720 kg (1587 lb)

### HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	4"
1 WIRE BRAID + 2 WIRE SPIRAL	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	1 1/4"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	3"
5 WIRE (4 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	1 1/4"
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK SUPER	1 1/2"
6 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	3"
6 WIRE SPIRALS	MF2000 INTERLOCK SUPER; MF2000 SPIRALFIT-GX	2"
8 WIRE SPIRALS	MF2000 INTERLOCK SUPER	1 1/2"



# MV 350

FIELD SERVICE & MOBILE / CONTAINER WORKSHOP  
MOBILE VAN



## KEY FEATURES

- Robust design
- Large opening
- High crimping force
- Ergonomic micrometer
- High crimping speed
- Radial movement of the dies
- Cylinder protection
- Remote head mounting option possible

## TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b>	<b>VOLTAGES</b>
4 - 130 mm (0.157 - 5.118")	12 V
<b>CRIMP FORCE</b>	24 V
350 t	220/240 V, 3Ph, 50 Hz
<b>OPENING WITH DIES</b>	380/415 V, 3Ph, 50 Hz
+54 mm (+2.125")	208/240 V, 3Ph, 60 Hz
<b>COMPLETE OPENING</b>	380/415 V, 3Ph, 60 Hz
180 mm (7.086")	<b>DIMENSIONS</b>
<b>MASTER DIE LENGTH</b>	650 x 550 x 750 mm
115 mm (4.528")	(26 x 22 x 30")
<b>STANDARD DIES</b>	<b>PACKAGING</b>
15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70, 73, 76	800 x 600 x 830 mm
<b>NOISE LEVEL</b>	(31 x 24 x 33")
<65 dB A	<b>NET WEIGHT</b>
<b>MOTOR</b>	210 kg (463 lb)
2.0 kW	<b>GROSS WEIGHT</b>
	260 kg (573 lb)
	<b>SAFETY REMARK</b>
	Possible limitations in case of double elbow fittings

## OPTIONAL



Maintenance Kit



Quick Change Gun



Aluminium Quick Change Gun



Die Storage Panel



Battery & Charger



Marking Dies



Die Sets for Brake & Air Conditioning Hoses



Front Die Storage

## MV 350

FIELD SERVICE & MOBILE / CONTAINER WORKSHOP  
MOBILE VAN

## HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	3"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	1 ¼"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT; MF3000 OPK	2"
5 WIRE (4 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	1 ¼"
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK SUPER	1 ½"
6 WIRE SPIRAL	MF2000 INTERLOCK PLUS; MF2000 INTERLOCK SUPER; MF2000 SPIRALFIT	1 ½"

# MS 320

## ASSEMBLING FOR MASS PRODUCTION STAND TYPE CRIMP MACHINE, SCS SYSTEM



### KEY FEATURES

- High crimp force
- Large opening
- Safe Crimp System (SCS) control
- Wide family of dies for industrial hoses
- Robust structure
- Fast and ergonomic
- Low noise level
- Easy die-set up with ergonomic gun

### STANDARD



Quick Change Gun



SCS Safe Crimp System



Electrical Footswitch



Die Storage



Mirror

### TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b> 4 - 130 mm (0.157 - 5.118")	<b>MOTOR</b> 5.5 kW / 7.5 kW (Fast Version)
<b>CRIMP FORCE</b> 320 t	<b>VOLTAGES</b> 220/240 V, 3Ph, 50 Hz
<b>OPENING WITH DIES</b> +80 mm (+3.149")	380/415 V, 3Ph, 50 Hz
<b>COMPLETE OPENING</b> 207 mm (8.149")	208/240 V, 3Ph, 60 Hz
<b>MASTER DIE LENGTH</b> 100 mm (3.937")	380/415 V, 3Ph, 60 Hz
<b>STANDARD DIES</b> 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70, 73, 76	<b>DIMENSIONS</b> 1240 x 995 x 1615 mm (49 x 39 x 64")
<b>NOISE LEVEL</b> <65 dB A	<b>PACKAGING</b> 1400 x 1100 x 1960 mm (55 x 43 x 77")
	<b>NET WEIGHT</b> 2000 kg (4409 lb)
	<b>GROSS WEIGHT</b> 2300 kg (5071 lb)

### OPTIONAL



Die Storage Panel



Marking Dies



Back View Camera



Aluminium Quick Change Gun



Mechanical Backstop



Side Table & Pushing Panel



Die Sets for Brake & Air Conditioning Hoses



Automatic Central Greasing System

# MS 320

## ASSEMBLING FOR MASS PRODUCTION STAND TYPE CRIMP MACHINE, SCS SYSTEM

### HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK;	3"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	1 ¼"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT; MF3000 OPK	2"
5 WIRE (4 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	1 ¼"
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK SUPER	1 ½"
6 WIRE SPIRALS (ROCKMASTER/13 - GOLDENISO/35 XTRAFLEX - SHIELDMASTER/35 - DIAMONDSPIR)	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	2"
8 WIRE SPIRALS	MF2000 INTERLOCK PLUS	1 ¼"

# MS 480

## ASSEMBLING FOR MASS PRODUCTION STAND TYPE CRIMP MACHINE, SCS SYSTEM



### KEY FEATURES

- High crimp force
- Large opening
- Safe Crimp System (SCS) control
- Wide family of dies for industrial hoses
- Long master dies
- Robust
- Low noise level
- Easy die set-up with ergonomic gun

### STANDARD



Quick Change Gun



SCS Safe Crimp System



Electrical Footswitch



Die Storage



Mirror

### TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b>	<b>MOTOR</b>
4 - 160 mm (0.157 - 6.299")	5.5 kW
<b>CRIMP FORCE</b>	<b>VOLTAGES</b>
480 t	220/240 V, 3Ph, 50 Hz
<b>OPENING WITH DIES</b>	380/415 V, 3Ph, 50 Hz
+85 mm (+3.346")	208/240 V, 3Ph, 60 Hz
<b>COMPLETE OPENING</b>	380/415 V, 3Ph, 60 Hz
212 mm (8.346")	<b>DIMENSIONS</b>
<b>MASTER DIE LENGTH</b>	1300 x 900 x 1700 mm
125 mm (4.921")	(51 x 35 x 67")
<b>STANDARD DIES</b>	<b>PACKAGING</b>
15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70, 73, 76	1400 x 1100 x 1960 mm
<b>NOISE LEVEL</b>	(55 x 43 x 77")
<65 dB A	<b>NET WEIGHT</b>
	2200 kg (4850 lb)
	<b>GROSS WEIGHT</b>
	2430 kg (5357 lb)

### OPTIONAL



Die Storage Panel



Marking Dies



Back View Camera



Aluminium Quick Change Gun



Mechanical Backstop



Side Table & Pushing Panel



Die Sets for Brake & Air Conditioning Hoses



Automatic Central Greasing System

# MS 480

## ASSEMBLING FOR MASS PRODUCTION STAND TYPE CRIMP MACHINE, SCS SYSTEM

### HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK;	4"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	1 ¼"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT; MF3000 OPK	4"
5 WIRE (4 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	1 ¼"
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK SUPER	1 ½"
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	2"
6 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	3"
6 WIRE SPIRALS	MF2000 INTERLOCK SUPER; MF2000 SPIRALFIT-GX	2"
8 WIRE SPIRALS	MF2000 INTERLOCK SUPER	1 ½"

# MS 800

## ASSEMBLING FOR LARGE BORE HOSES STAND TYPE CRIMP MACHINE, SCS CONTROL



### KEY FEATURES

- Designed for heavy duty large bore hydraulic hoses
- High power and speed
- Ergonomically designed for large bore hoses
- Safe Crimp System (SCS) for maximum reliability during the crimping process
- Large opening up to 8"
- Long master dies
- Very high crimping force

### STANDARD



Electrical Footswitch



SCS Safe Crimp System



Hose Support

### TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b>	<b>MOTOR</b>
4 - 230 mm (0.157 - 9.055")	7.5 kW
<b>CRIMP FORCE</b>	<b>VOLTAGES</b>
800 t	380/415 V, 3Ph, 50 Hz
<b>OPENING WITH DIES</b>	<b>DIMENSIONS</b>
+100 mm (+3.937")	1400 x 1400 x 2060 mm (55 x 55 x 81")
<b>COMPLETE OPENING</b>	<b>NET WEIGHT</b>
347 mm (13.661")	4300 kg (9480 lb)
<b>MASTER DIE LENGTH</b>	<b>GROSS WEIGHT</b>
180 mm (7.087")	5000 kg (11023 lb)
<b>NOISE LEVEL</b>	<b>TECHNICAL FEATURES</b>
< 70 dB A	

-Machine platform equipped with rollers to support the hose at working height (1100 mm) in order to handle large bore hoses more easily  
-Supplied as standard: Intermediate dies 250/130

### OPTIONAL



Quick Change Gun



Die Storage Panel



Back View Camera

# MS 800

## ASSEMBLING FOR LARGE BORE HOSES STAND TYPE CRIMP MACHINE, SCS CONTROL

### HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
INDUSTRIAL TEXTILE HOSES	VARIOUS	8"
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK;	4"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	1 ¼"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT; MF3000 OPK	4"
5 WIRE (4 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	1 ¼"
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK SUPER	3"
6/8 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT; MF2000 INTERLOCK SUPER	3"



## ACCESSORIES AND TOOLS

### SAFE CRIMP (SC) SMART CONTROL PANEL

A basic smart control panel, which includes maintenance functions essential for keeping the machine in good condition.

#### Maintenance functions include:

- **2 Counters:** 1 daily counter and 1 machine cycle counter
- **3 LED Indicator Lights:** 1 for daily maintenance, 1 for advanced maintenance and 1 for expert maintenance
- **Semi-automatic function:** The semi-automatic opening is ideal for serial assemblies as it can be adjusted specifically to allow the fitting to pass through the dies with minimal clearance, saving energy by reducing the cycle time.
- **Integrated Bluetooth:** Receive crimping data from the Manuli crimping app to reduce the risk of operator error



### SAFE CRIMP ELECTRICAL PANEL (SCE)

A modern touch screen with electronic buttons, which includes maintenance functions essential for keeping the machine in good condition.

#### Maintenance functions include:

- **Functions of the Safe Crimp Panel**
- **Electronic micrometer** with automatic die selection and the ability to save up to 25 configurations
- **Integrated Bluetooth:** Receive crimping data from the Manuli crimping app to reduce the risk of operator error
- **Optional calliper control:** Integrated vernier caliper connected to the machine which allows automatic correction of crimping diameters based on measured values



## ACCESSORIES AND TOOLS

### SAFE CRIMP SYSTEM



#### Benefits of Safe Crimp System control for hose assembly activity:

- User friendly, simple setting of crimping parameters including:
  - Pre-set crimp diameter calibration to compensate for ferrule elastic rebound
  - Reminder of dies to be used
  - Easy automatic opening setting
- Storage of recurrent and customised crimp recipes and favourite crimp assemblies:
  - Short-cuts for faster setup
  - No crimp diameter re-adjusting
  - Download your customised recipes to a USB port to save on a separate computer (CSV file)
- Production counter for batch quantity control:
  - Quality monitoring by automatic crimp diameter check (Only available on 7" screen)
  - Continuous crimp pressure measurement (Optional on 4.5" screen)
  - Crimping pressure and count control for assembly mistake proofing (Option 4.5" screen)
- Operator identification (Log in / log out)
- Maintenance Warnings

# MTB 2000 L

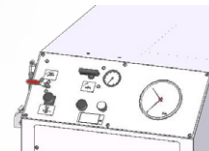
## TEST BENCH, PROOF PRESSURE & CERTIFY STAND TYPE MACHINE

### KEY FEATURES

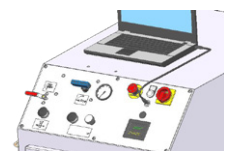
- Easy to use and robust
- Safe: Steel Compartment, polycarbonate transparent window and metal mesh
- Large testing area for up to 6 hoses
- Pallet loading with a forklift
- Variable pressure up to 2000 bar



### STANDARD



Power Unit M



Power Unit E

### TECHNICAL SPECIFICATIONS

<b>INDICATIVE CAPACITY</b>	<b>PACKAGING (TANK)</b>
1200 mm (48")	1600 x 1200 x 1280 mm (63 x 47 x 50")
<b>HOSE CONNECTION</b>	<b>PACKAGING (PANEL)</b>
6 maximum	1000 x 1200 x 1280 mm (39 x 47 x 50")
<b>AIR CONSUMPTION</b>	<b>WEIGHT</b>
100 NI/min	430 kg (948 lb)
<b>OPENING/CLOSING TIME</b>	<b>NET WEIGHT</b>
10-14 seconds	500 kg (1102 lb)
<b>MAX PRESSURE</b>	<b>TECHNICAL FEATURES</b>
2000 bar (29000 psi)	-Minimum compressed air input 8.5 bar (123 psi)
<b>INNER TANK CAPACITY</b>	
1700 x 790 x 200 mm (67 x 31 x 8")	
<b>DIMENSIONS (PANEL)</b>	
700 x 1200 x 1220 mm (28 x 47 x 48")	

### FEATURES AND OPTIONS

<b>DISPLAY FEATURES</b>	
<b>M</b>	Gauge measurement display
<b>E</b>	Numerical measurement colour display with ethernet port for mirror link connection with computer
<b>FURTHER OPTIONS</b>	
- Autonomous filling pump	
- Air blowing system for both models	
- Second tank available on all models	

# MTB 2000 XL

## TEST BENCH, PROOF PRESSURE & CERTIFY STAND TYPE MACHINE

### KEY FEATURES

- Easy to use and robust
- Safe: Steel Compartment, polycarbonate transparent window and metal mesh
- Large testing area for up to 6 hoses
- Pallet loading with a forklift
- Variable pressure up to 2000 bar
- Print test data directly to USB drive or printer
- ISD model supplied with colour printer



Model shown XL ISD

ASSEMBLY MACHINES 212

### TECHNICAL SPECIFICATIONS

### FEATURES AND OPTIONS

<b>INDICATIVE CAPACITY</b>	<b>PACKAGING (TANK)</b>
1200 mm (48")	1600 x 1200 x 1280 mm (63 x 47 x 50")
<b>HOSE CONNECTION</b>	<b>PACKAGING (PANEL)</b>
6 maximum	1000 x 1200 x 1280 mm (39 x 47 x 50")
<b>AIR CONSUMPTION</b>	<b>WEIGHT</b>
100 NI/min	600 kg (1323 lb)
<b>OPENING/CLOSING TIME</b>	<b>NET WEIGHT</b>
10-14 seconds	500 kg (1102 lb)
<b>MAX PRESSURE</b>	<b>TECHNICAL FEATURES</b>
2000 bar (29000 psi)	-Minimum compressed air input 8.5 bar (123 psi) -Minimum test pressure 250 bar (3626 psi), with low pressure option 50 bar (725 psi) (only for XL ISD)
<b>INNER TANK CAPACITY</b>	
1400 x 900 x 600 mm (55 x 35 x 24")	
<b>DIMENSIONS (PANEL)</b>	
700 x 1200 x 1220 mm (28 x 47 x 48")	

<b>STANDARD OPTIONS</b>
<b>XL ISD:</b>
<ul style="list-style-type: none"> <li>Light included</li> <li>Touch screen panel</li> <li>Printer</li> </ul>
<b>XL E:</b>
<ul style="list-style-type: none"> <li>LED Light included</li> <li>Numerical measurement colour display with ethernet port for mirror link connection with computer</li> </ul>
<b>FURTHER OPTIONS</b>
<ul style="list-style-type: none"> <li>- Autonomous filling pump</li> <li>- Air blowing system for both models</li> <li>- Second tank available on all models</li> <li>- Low pressure pump (50 bar - 300 bar) available on ISD model</li> </ul>

## MRB 137 EVO R

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-07
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 8 - LENGTH 56 MM	8	08-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
DIE SET N. 14 - LENGTH 56 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 56 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 56 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 56 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 70 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 75 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 70 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 70 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 70 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 70 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 75 MM</b>	<b>51</b>	<b>51-57</b>
KIT 4 DIES MRB137EVOR (N.15 TO N.33)	-	-
KIT 5 DIES MRB137EVOR (N.15 TO N.39)	-	-
KIT 6 DIES MRB137EVOR (N.15 TO N.39)	-	-
KIT 7 DIES MRB137EVOR (N.15 TO N.39)	-	-
KIT 9 DIES MRB137EVOR (N.15 TO N.45)	-	-
KIT 9 DIES MRB137EVOR (N.15 TO N.48)	-	-
KIT 10 DIES MRB137EVOR (N.15 TO N.48)	-	-
<b>KIT 13 DIES MRB137EVOR (N.15 TO N.51)</b>	<b>-</b>	<b>-</b>

- REFERENCES IN **BOLD** ARE INCLUDED IN THE STANDARD DIE KIT (ALSO IN **BOLD**)

# MB 350 EVO / MB 350 EVO L

ASSEMBLY MACHINES 214

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
DIE SET N. 14 - LENGTH 56 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 70 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 90 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 110 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 110 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 60 - LENGTH 110 MM	60	60-62
<b>DIE SET N. 62 - LENGTH 125 MM</b>	<b>62</b>	<b>62-66</b>
DIE SET N. 66 - LENGTH 110 MM	66	66-70
<b>DIE SET N. 66* - LENGTH 125 MM</b>	<b>66*</b>	<b>66-70</b>
DIE SET N. 70 - LENGTH 100 MM	70	70-72
<b>DIE SET N. 70* - LENGTH 125 MM</b>	<b>70*</b>	<b>70-72</b>
DIE SET N. 72 - LENGTH 100 MM	72	72-73
<b>DIE SET N. 73 - LENGTH 125 MM</b>	<b>73</b>	<b>73-76</b>
DIE SET N. 75 - LENGTH 125 MM	75	75-76
<b>DIE SET N. 76 - LENGTH 125 MM</b>	<b>76</b>	<b>76-86</b>
DIE SET N. 80 - LENGTH 125 MM	80	80-86
DIE SET N. 86 - LENGTH 125 MM	86	86-90
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 125 MM	95	95-105
DIE SET N. 99 - LENGTH 125 MM	99	99-109
DIE SET N. 112 - LENGTH 125 MM	112	112-117
DIE SET N. 117 - LENGTH 125 MM	117	117-122
DIE SET N. 122 - LENGTH 125 MM	122	122-127
KIT 13 DIES MB350EVO/L (N.15 TO N.73)	-	-
<b>KIT 19 DIES MB350EVO/L (N.15 TO N.76)</b>	<b>-</b>	<b>-</b>

- REFERENCES IN **BOLD** ARE INCLUDED IN THE STANDARD DIE KIT (ALSO IN **BOLD**)

# GOLDENCRIMP 420 EVO

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 70 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 90 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 110 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 110 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 60 - LENGTH 110 MM	60	60-62
DIE SET N. 62 - LENGTH 110 MM	62	60-62
<b>DIE SET N. 62* - LENGTH 125 MM</b>	<b>62*</b>	<b>62-66</b>
DIE SET N. 66 - LENGTH 110 MM	66	66-70
<b>DIE SET N. 66* - LENGTH 125 MM</b>	<b>66*</b>	<b>66-70</b>
DIE SET N. 70 - LENGTH 100 MM	70	70-72
<b>DIE SET N. 70* - LENGTH 125 MM</b>	<b>70*</b>	<b>70-72</b>
<b>DIE SET N. 73 - LENGTH 125 MM</b>	<b>73</b>	<b>73-76</b>
DIE SET N. 75 - LENGTH 125 MM	75	75-76
DIE SET N. 76 - LENGTH 125 MM	76	76-86
<b>DIE SET N. 76* - LENGTH 135 MM</b>	<b>76*</b>	<b>76-86</b>
DIE SET N. 80 - LENGTH 125 MM	80	80-82
DIE SET N. 82 - LENGTH 135 MM	82	82-90
DIE SET N. 86 - LENGTH 125 MM	86	86-90
DIE SET N. 86* - LENGTH 150 MM (FOR DIAMONDSPIR 2½")	86*	86-90
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 125 MM	95	95-105
DIE SET N. 95* - LENGTH 150 MM (FOR DIAMONDSPIR 2½")	95*	95-105
KIT 13 DIE SET GOLDENCRIMP420EVO (15 TO 73)	-	-
<b>KIT 19 DIE SET GOLDENCRIMP420EVO (15 TO 76)</b>	-	-

- REFERENCES IN **BOLD** ARE INCLUDED IN THE STANDARD DIE KIT (ALSO IN **BOLD**)

# GOLDENCRIMP 450

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 70 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 90 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 110 MM</b>	<b>51</b>	<b>51-57</b>
<b>DIE SET N. 54 - LENGTH 110 MM</b>	<b>54</b>	<b>54-57</b>
<b>DIE SET N. 57 - LENGTH 110 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 60 - LENGTH 110 MM	60	60-62
DIE SET N. 62 - LENGTH 110 MM	62	62-66
<b>DIE SET N. 62* - LENGTH 125 MM</b>	<b>62*</b>	<b>62-66</b>
DIE SET N. 66 - LENGTH 110 MM	66	66-70
<b>DIE SET N. 66* - LENGTH 125 MM</b>	<b>66*</b>	<b>66-70</b>
DIE SET N. 70 - LENGTH 100 MM	70	70-72
<b>DIE SET N. 70* - LENGTH 125 MM</b>	<b>70*</b>	<b>70-72</b>
<b>DIE SET N. 73 - LENGTH 125-28 MM, REINFORCED PIN</b>	<b>73</b>	<b>73-76</b>
DIE SET N. 76 - LENGTH 125 MM	76	76-86
<b>DIE SET N. 76* - LENGTH 135 MM</b>	<b>76*</b>	<b>76-86</b>
DIE SET N. 80 - LENGTH 125 MM	80	80-82
DIE SET N. 82 - LENGTH 135 MM	82	82-90
DIE SET N. 86* - LENGTH 150 MM (FOR DIAMONDSPIR 2½")	86*	86-90
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 150 MM (FOR DIAMONDSPIR 2½")	95*	95-105
DIE SET N. 99 - LENGTH 125 MM	99	95-105
DIE SET N. 105 - LENGTH 150 MM	105	99-109
DIE SET N. 112 - LENGTH 150 MM	112	112-122
DIE SET N. 117 - LENGTH 110 MM	117	117-127
DIE SET N. 122 - LENGTH 130 MM, REINFORCED PIN	122	122-130
KIT 13 DIE SET GOLDENCRIMP450EVO (15 TO 73)	-	-
<b>KIT 19 DIE SET GOLDENCRIMP450EVO (15 TO 76)</b>	-	-

- REFERENCES IN **BOLD** ARE INCLUDED IN THE STANDARD DIE KIT (ALSO IN **BOLD**)



# MV 350

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
DIE SET N. 14 - LENGTH 56 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	17-18
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
DIE SET N. 24 - LENGTH 70 MM	24	24-27
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
DIE SET N. 30 - LENGTH 90 MM	30	30-33
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 100 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 100 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 62 - LENGTH 100 MM</b>	<b>62</b>	<b>62-66</b>
<b>DIE SET N. 66 - LENGTH 110 MM</b>	<b>66</b>	<b>66-70</b>
<b>DIE SET N. 70 - LENGTH 100 MM</b>	<b>70</b>	<b>70-72</b>
DIE SET N. 73 - LENGTH 125 MM	73	73-76
DIE SET N. 75 - LENGTH 125 MM	75	75-76
DIE SET N. 76 - LENGTH 125 MM	76	76-86
DIE SET N. 80 - LENGTH 125 MM	80	80-86
DIE SET N. 86 - LENGTH 125 MM	86	86-90
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 125 MM	95	95-105
DIE SET N. 99 - LENGTH 125 MM	99	99-109
DIE SET N. 112 - LENGTH 125 MM	112	112-117
DIE SET N. 117 - LENGTH 125 MM	117	117-122
DIE SET N. 122 - LENGTH 125 MM	122	122-127
KIT 12 DIES MV350 (N.15 TO N.66)	-	-
<b>KIT 17 DIES MV350 (N.15 TO N.70)</b>	<b>-</b>	<b>-</b>

- REFERENCES IN **BOLD** ARE INCLUDED IN THE STANDARD DIE KIT (ALSO IN **BOLD**)

## MV 350 L

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
DIE SET N. 14 - LENGTH 56 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	17-18
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
DIE SET N. 24 - LENGTH 70 MM	24	24-27
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
DIE SET N. 30 - LENGTH 90 MM	30	30-33
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 100 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 100 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 62 - LENGTH 100 MM</b>	<b>62</b>	<b>62-66</b>
<b>DIE SET N. 66 - LENGTH 110 MM</b>	<b>66</b>	<b>66-70</b>
<b>DIE SET N. 70 - LENGTH 100 MM</b>	<b>70</b>	<b>70-72</b>
DIE SET N. 73 - LENGTH 125 MM	73	73-76
DIE SET N. 75 - LENGTH 125 MM	75	75-76
DIE SET N. 76 - LENGTH 125 MM	76	76-86
DIE SET N. 80 - LENGTH 125 MM	80	80-86
DIE SET N. 86 - LENGTH 125 MM	86	86-90
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 125 MM	95	95-105
DIE SET N. 99 - LENGTH 125 MM	99	99-109
DIE SET N. 112 - LENGTH 125 MM	112	112-117
DIE SET N. 117 - LENGTH 125 MM	117	117-122
DIE SET N. 122 - LENGTH 125 MM	122	122-127
KIT 12 DIES MV350L (N.15 TO N.66)	-	-
<b>KIT 17 DIES MV350L (N.15 TO N.70)</b>	<b>-</b>	<b>-</b>

- REFERENCES IN **BOLD** ARE INCLUDED IN THE STANDARD DIE KIT (ALSO IN **BOLD**)

# MS 320

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 10 - LENGTH 90 MM	10	10-12
DIE SET N. 12 - LENGTH 90 MM	12	12-15
DIE SET N. 14 - LENGTH 90 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 70 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 90 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 70 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 90 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 90 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 90 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 90 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 95 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 100 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 100 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 100 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 60 - LENGTH 100 MM	60	60-62
DIE SET N. 62 - LENGTH 110 MM	62	62-66
<b>DIE SET N. 62 - LENGTH 125 MM</b>	<b>62</b>	<b>62-66</b>
DIE SET N. 66 - LENGTH 100 MM	66	66-70
<b>DIE SET N. 66 - LENGTH 125 MM</b>	<b>66</b>	<b>66-70</b>
DIE SET N. 70 - LENGTH 100 MM	70	70-72
<b>DIE SET N. 70 - LENGTH 125 MM</b>	<b>70</b>	<b>70-72</b>
<b>DIE SET N. 73 - LENGTH 120 MM</b>	<b>73</b>	<b>73-76</b>
<b>DIE SET N. 76 - LENGTH 120 MM</b>	<b>76</b>	<b>76-86</b>
DIE SET N. 80 - LENGTH 100 MM	80	80-86
DIE SET N. 86 - LENGTH 100-65 MM	86	86-90
DIE SET N. 90 - LENGTH 100 MM, REINFORCED PIN	90	90-95
DIE SET N. 95 - LENGTH 100 MM, REINFORCED PIN	95	95-105
DIE SET N. 99 - LENGTH 100 MM	99	99-109
DIE SET N. 112 - LENGTH 100 MM	112	112-117
DIE SET N. 117 - LENGTH 100 MM	117	117-122
DIE SET N. 122 - LENGTH 100 MM	122	122-127
KIT 13 DIES MS320 (N.15 TO N.73)	-	-
<b>KIT 19 DIES MS320 (N.15 TO N.76)</b>	-	-

- REFERENCES IN **BOLD** ARE INCLUDED IN THE STANDARD DIE KIT (ALSO IN **BOLD**)

## MS 480

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 10 - LENGTH 90 MM	10	10-12
DIE SET N. 12 - LENGTH 90 MM	12	12-15
DIE SET N. 14 - LENGTH 90 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 90 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 90 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 90 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 90 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 90 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 90 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 100 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 110 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 110 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 60 - LENGTH 110 MM	60	60-62
DIE SET N. 62 - LENGTH 110 MM	62	62-66
<b>DIE SET N. 62* - LENGTH 125 MM</b>	<b>62*</b>	<b>62-66</b>
DIE SET N. 66 - LENGTH 110 MM	66	66-70
<b>DIE SET N. 66* - LENGTH 125 MM</b>	<b>66*</b>	<b>66-70</b>
DIE SET N. 70 - LENGTH 110 MM	70	70-72
<b>DIE SET N. 70* - LENGTH 125 MM</b>	<b>70*</b>	<b>70-72</b>
<b>DIE SET N. 73 - LENGTH 125-28 MM, REINFORCED PIN</b>	<b>73</b>	<b>73-76</b>
<b>DIE SET N. 76 - LENGTH 135 MM</b>	<b>76</b>	<b>76-86</b>
DIE SET N. 80 - LENGTH 125 MM	80	80-86
DIE SET N. 82 - LENGTH 135 MM	82	82-90
DIE SET N. 86 - LENGTH 150 MM	86	86-90
DIE SET N. 86 - LENGTH 125-48 MM	86	
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 150 MM	95	95-105
DIE SET N. 95 - LENGTH 125-48 MM	95	
DIE SET N. 99 - LENGTH 125 MM, REINFORCED PIN	99	99-105
DIE SET N. 105 - LENGTH 150 MM	105	105-112
DIE SET N. 112 - LENGTH 150 MM	112	112-122
DIE SET N. 117 - LENGTH 125 MM	117	117-122
DIE SET N. 122 - LENGTH 130 MM, REINFORCED PIN	122	122 -130
DIE SET N. 130 - LENGTH 145 MM	130	130-140
KIT 13 DIES MS480 (N.15 TO N.73)	-	-
<b>KIT 19 DIES MS480 (N.15 TO N.76)</b>	<b>-</b>	<b>-</b>

- REFERENCES IN **BOLD** ARE INCLUDED IN THE STANDARD DIE KIT (ALSO IN **BOLD**)

# MS 800

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 90 MM	12	12-15
DIE SET N. 15 - LENGTH 90 MM	15	15-18
DIE SET N. 17 - LENGTH 90 MM	17	17-18
DIE SET N. 18 - LENGTH 90 MM	18	18-21
DIE SET N. 20 - LENGTH 90 MM	20	20-21
DIE SET N. 21 - LENGTH 90 MM	21	21-24
DIE SET N. 24 - LENGTH 90 MM	24	24-27
DIE SET N. 27 - LENGTH 90 MM	27	27-30
DIE SET N. 30 - LENGTH 90 MM	30	30-33
DIE SET N. 33 - LENGTH 90 MM	33	33-36
DIE SET N. 36 - LENGTH 90 MM	36	36-39
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 110 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 110 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 60 - LENGTH 110 MM	60	60-62
DIE SET N. 62 - LENGTH 110 MM	62	62-66
<b>DIE SET N. 62* - LENGTH 125 MM</b>	<b>62*</b>	<b>62-66</b>
DIE SET N. 66 - LENGTH 110 MM	66	66-70
<b>DIE SET N. 66* - LENGTH 125 MM</b>	<b>66*</b>	<b>66-70</b>
DIE SET N. 70 - LENGTH 110 MM	70	70-72
<b>DIE SET N. 70* - LENGTH 125 MM</b>	<b>70*</b>	<b>70-72</b>
<b>DIE SET N. 73 - LENGTH 125-28 MM, REINFORCED PIN</b>	<b>73</b>	<b>73-76</b>
DIE SET N. 76 - LENGTH 125 MM	76	76-86
<b>DIE SET N. 76* - LENGTH 135 MM</b>	<b>76*</b>	<b>76-86</b>
DIE SET N. 80 - LENGTH 125 MM	80	80-86
DIE SET N. 82 - LENGTH 135 MM	82	82-90
<b>DIE SET N. 86 - LENGTH 150 MM</b>	<b>86</b>	<b>86-90</b>
<b>DIE SET N. 90 - LENGTH 125 MM</b>	<b>90</b>	<b>90-95</b>
<b>DIE SET N. 95 - LENGTH 150 MM</b>	<b>95</b>	<b>95-105</b>
<b>DIE SET N. 105 - LENGTH 180 MM</b>	<b>105</b>	<b>105-112</b>
<b>DIE SET N. 112 - LENGTH 150 MM</b>	<b>112</b>	<b>112-122</b>
<b>DIE SET N. 130 - LENGTH 180 MM</b>	<b>130</b>	<b>130-140</b>
KIT 13 DIES MS800 (N.15 TO N.73)	-	-
<b>KIT 18 DIES MS800 (N.39 TO N.130)</b>	-	-

- REFERENCES IN **BOLD** ARE INCLUDED IN THE STANDARD DIE KIT (ALSO IN **BOLD**)

**CK 50**



**TECHNICAL SPECIFICATIONS**

**NUMBER OF NOZZLES**

10 to suit hose ID

**COMPRESSED AIR**

7 bar

**MINIMUM INTERNAL DIAMETER OF HOSE**

6 mm

**MINIMUM INTERNAL DIAMETER**

51 mm

**TECHNICAL FEATURES**

Includes 575 pellets & projectile catcher

**HRD 07**

**HOSES CAN BE STORED ON THE HOSE DISPENSER**



**TECHNICAL SPECIFICATIONS**

**MAXIMUM NUMBER OF COILS**

7

**MAXIMUM WEIGHT/COIL**

80 kg

**MINIMUM INTERNAL DIAMETER**

300 mm

**MINIMUM EXTERNAL DIAMETER**

850 mm

**MAXIMUM HEIGHT**

200 mm

**DIMENSIONS**

1180 x 1180 x 2115 mm (100 kg)

**PACKAGING**

1200 x 1200 x 720 mm (135 kg)

DV 32 - DVC - OEM DECOILER

**DV 32**



**DVC**



**OEM**



The hose decoiler is highly adaptable, suitable for a hose reel or a coil up to 100 kgs. It is stable and equipped with a hose guide system and a manual break, offering increased safety and efficiency.

# BOURDON TUBE PRESSURE GAUGE

## MODEL SAG-06, UNDERGROUND MINING VERSION

### Standard Version

<b>PROCESS CONNECTION</b>	Forged brass, Lower mount (LM), Plug connection per, DIN 20043, DN10
<b>PRESSURE ELEMENT</b>	Cu-alloy
<b>MOVEMENT</b>	Cu-alloy, wear parts argentan
<b>DIAL</b>	White, with pointer stop pin, black lettering, colour divided scale
<b>POINTER</b>	Plastic, black
<b>CASE</b>	Forged brass
<b>WINDOW</b>	Plastic
<b>BEZEL RING</b>	Crimp ring, glossy finish stainless steel
<b>FILLING LIQUID</b>	Glycerine



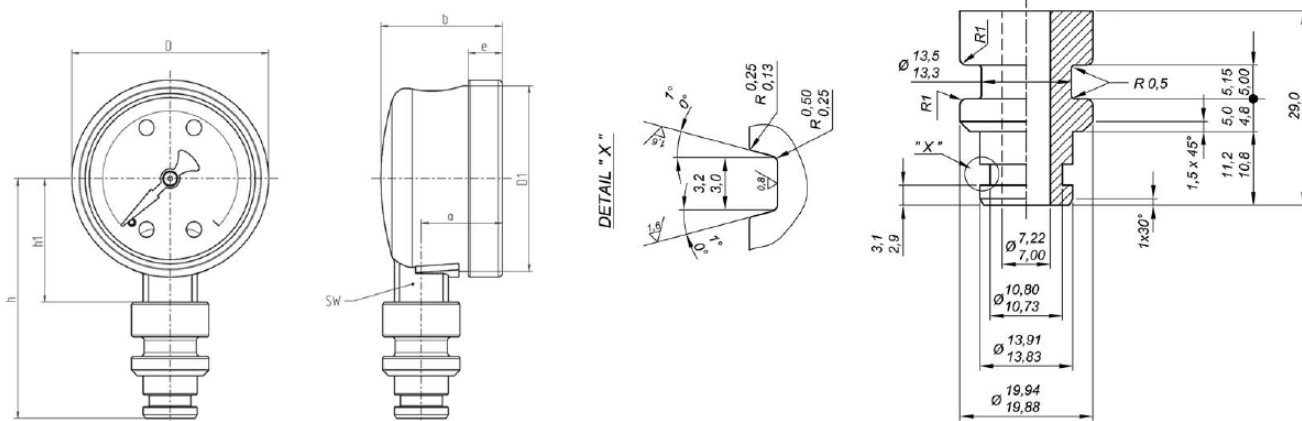
### Description

- Nominal Size: 50mm
- Accuracy class: 2.5
- Scale range: 0 - 600 bar
- Pressure limitation  
Steady: 3/4 x full scale value  
Fluctuating: 2/3 x full scale value  
Short time: full scale value
- Operating temperature  
Ambient : +10 - +60°C  
Medium : +60°C maximum
- Temperature effect:  
When the temperature of the measuring  
the system deviates from the reference  
temperature (+20°C): max ±0.4 %/10 K  
of the span

ADDITIONAL PRODUCTS 224

### Standard Version Lower Mount (LM)

Plug connection per DIN 20043, DN10



NS	a	b	D	D1	h+/-1	e	SW	Weight (kg)
50	19	31	53.3	49.8	28.5	6.5	14.0	0.22



## Hose Protection Covers

Manuli Hydraulics stocks a full range of hydraulic hose and electrical cable safety covers. These products offer improved operator personal safety, external hose and cable protection from either heat or abrasion, as well as hydraulic oil spill containment. Manuli Hydraulics offers an extensive range of protection products tailored to meet a wide variety of industrial needs and requirements.

### Products

#### Texsleeve®

A textile protective sleeve in a wide range of sizes that is designed to offer significant abrasion and heat protection to single and bundled hoses or electrical cables. Texsleeve® also provides protection from oil spill when used to cover high pressure hydraulic hose. Other products in this family are Texwrap™, an easy to install textile sleeve, and Textstrip™, a textile belt for bundling or hanging hoses or cables.

#### Kovertec™

A high performance spiral wrap for hoses and electrical cables that offers superior resistance to surface abrading and heat, whilst providing an effective solution to bundling of single or multiple hoses / cables without compromising flexibility. Three variants are available in this family of products: Kovertec PSA, Kovertec HT and Kovertec HD.

#### Shiltek™

A silicone coated fire resistant sleeve with outstanding heat resistant properties. Shiltek is supplied in a wide range of sizes and can be used where either high temperature insulation or external protection is required.

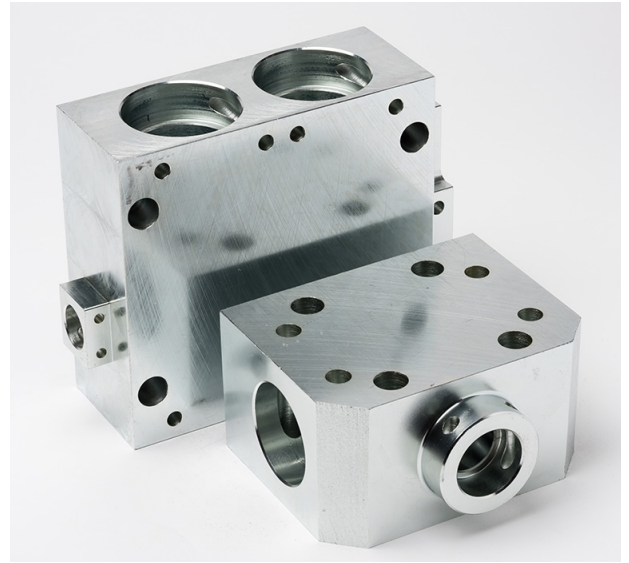


## Hydraulic Manifolds

**Manifolds are used to distribute fluid through a hydraulic circuit, whilst improving system design by offering multiple connections through a single block.**

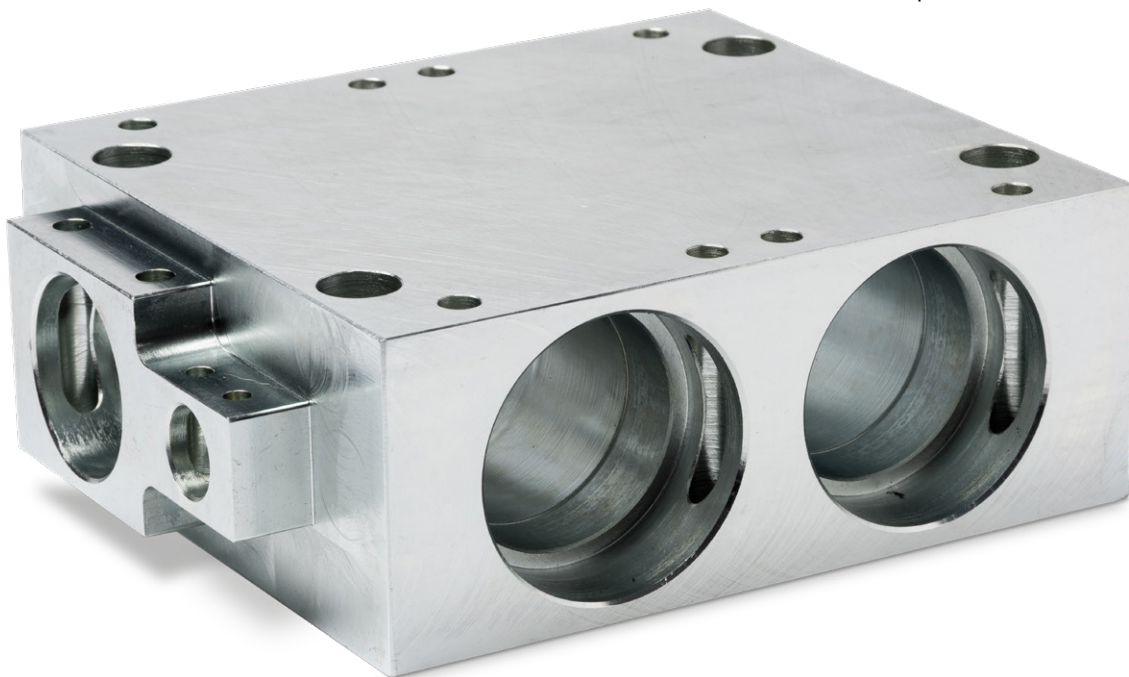
Manuli Hydraulics design and manufacture both low- and high-pressure hydraulic manifolds to customers' unique specifications. Manifolds can be produced in numerous different configurations and compliment the Manuli XXL hose range typically used in applications such as monorail systems.

The constant requirement for increased output and greater productivity drive continuous improvement and innovation in this custom made range of speciality products.



### Key Benefits

- Minimises leak paths
- Reduces hose stress on monorail systems
- Reduces the number of connections
- Simplifies hose installation and system design
- Designs accommodate multiple industry standard porting options
- Compact design for both low- and high-pressure applications
- 100% pressure tested and certified



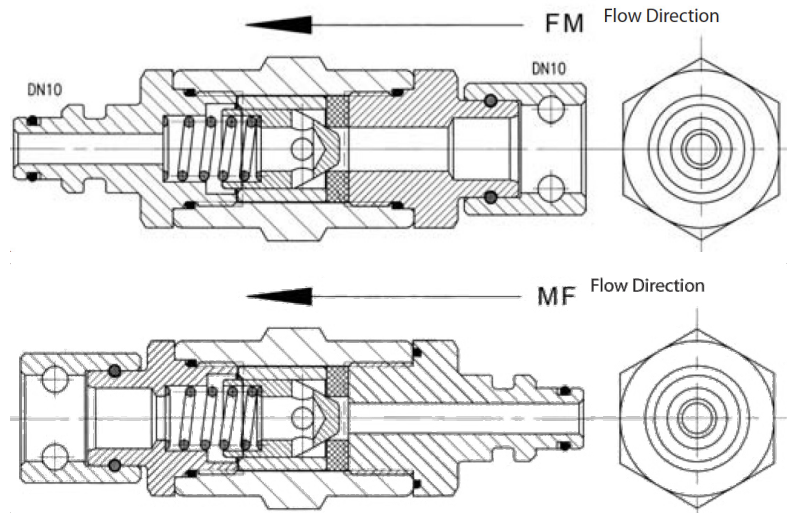
# Non-Return Valves

## MCV SA SERIES

- DN10 - DN50
- Max Working Pressure 320 - 520 bar
- Opening pressure 0.5 - 1 bar

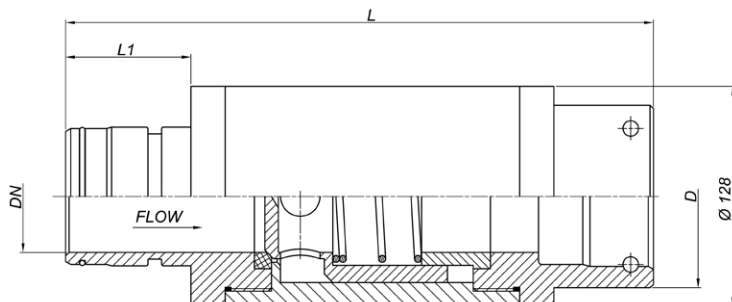


MCV-FM-06-06 / MCV-MF-06-06 (DN10)	
Max Working Pressure	500 bar
Approx Opening Pressure	0.5 bar
Overall Length	127mm FM, MF 126mm FF



DN	PN (bar)	INPUT	OUTPUT	OVERALL LENGTH	PART NUMBER MCV-SA...
10	500	Female staple DN10	Male staple DN10	127	FM-06-06
10	500	Male staple DN10	Female staple DN10	127	MF-06-06
10	500	Female staple DN10	Female staple DN10	126	FF-06-06
12	500	Female staple DN12	Male staple DN12	127	FM-08-08
12	500	Male staple DN12	Female staple DN12	127	MF-08-08
12	500	Female staple DN12	Female staple DN12	126	FF-08-08
19	320	Female staple DN20	Male staple DN20	153	FM-12-12
19	320	Male staple DN20	Female staple DN20	153	MF-12-12
19	320	Female staple DN20	Female staple DN20	155	FF-12-12
25	320	Female staple DN25	Male staple DN25	196	FM-16-16
25	320	Male staple DN25	Female staple DN25	196	MF-16-16
25	320	Female staple DN25	Female staple DN25	194	FF-16-16
31	320	Female staple DN32	Male staple DN32	198	FM-20-20
31	320	Male staple DN32	Female staple DN32	198	MF-20-20
31	320	Female staple DN32	Female staple DN32	197	FF-20-20
38	320	Female staple DN40	Male staple DN40	226	FM-24-24
38	320	Male staple DN40	Female staple DN40	226	MF-24-24
38	320	Female staple DN40	Female staple DN40	226	FF-24-24
51	320	Female staple DN50	Male staple DN50	259	FM-32-32
51	320	Male staple DN50	Female staple DN50	259	MF-32-32
51	320	Female staple DN50	Female staple DN50	259	FF-32-32

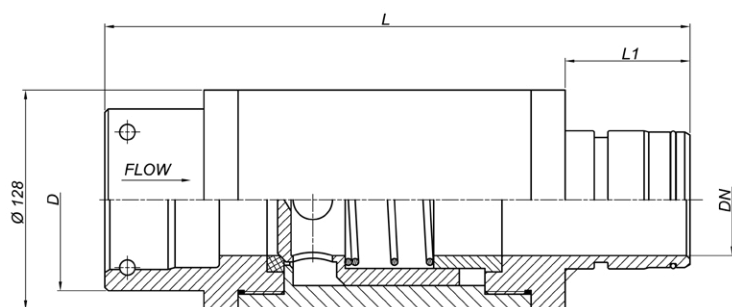
## MALE - FEMALE



MATERIALS	
Body Steel	EN-S355J2G3 zinc plated
Piston	Brass
O Rings	NBR
Sealing	POM

PART REF	DN	D	L	L1	WORKING PRESSURE	SAFETY FACTOR	MAXIMUM OPENING PRESSURE
MCV-SAMF-4040	63	106	383	70	70 bar	4:1	1.0 bar
MCV-SAMF-4848	75	120	435	90	46 bar	4:1	1.0 bar

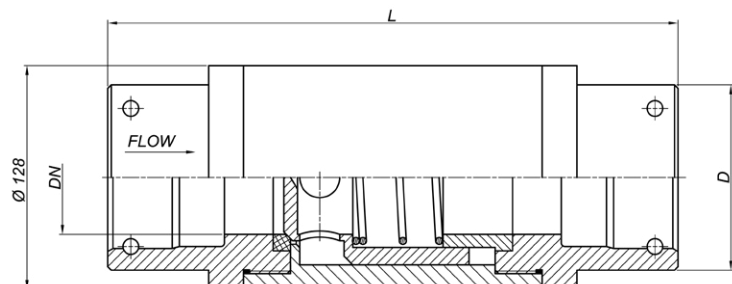
## FEMALE - MALE



MATERIALS	
Body Steel	EN-S355J2G3 zinc plated
Piston	Brass
O Rings	NBR
Sealing	POM

PART REF	DN	D	L	L1	WORKING PRESSURE	SAFETY FACTOR	MAXIMUM OPENING PRESSURE
MCV-SAFM-4040	63	106	383	70	70 bar	4:1	1.0 bar
MCV-SAFM-4848	75	120	435	90	46 bar	4:1	1.0 bar

## FEMALE - FEMALE



MATERIALS	
Body Steel	EN-S355J2G3 zinc plated
Piston	Brass
O Rings	NBR
Sealing	POM

PART REF	DN	D	L	WORKING PRESSURE	SAFETY FACTOR	MAXIMUM OPENING PRESSURE
MCV-SAF-4040	63	106	350	70 bar	4:1	1.0 bar
MCV-SAF-4848	75	120	404	46 bar	4:1	1.0 bar

## Rotary Staple Lock Live Swivel

**Manuli Hydraulics offers a range of rotary staple lock live swivel couplings, designed to the highest standards for operation in demanding interchock applications.**

The live swivel eliminates the stresses of hose twist and torsional forces, extending hose life and improving underground mining safety.

With both high- and low-pressure variants, the live swivel components also incorporate Manuli Hydraulics' new one-piece sealing solution, Supa Seal.



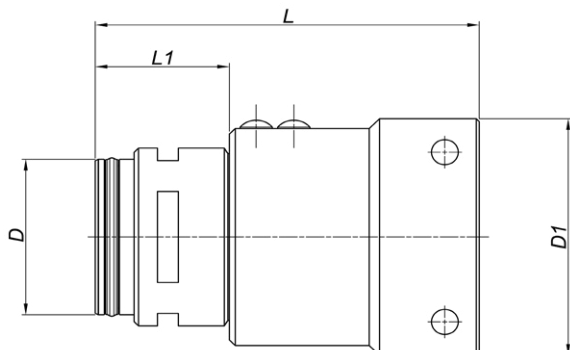
### Key Features

- Compact design for both high- and low-pressure applications
- Validated to a 4:1 factor of safety
- 30,000 simulated interchock advances
- Fully impulse tested to 500,000 cycles
- Eliminates hose twist and torsional resistance under full working pressure
- Location flats lock male end for optimum swivel performance
- Fully sealed to avoid ingress of dirt
- Lubrication points for routine maintenance
- Integral breather port prevents over-greasing



# ASA ROTARY STAPLE LOCK LIVE SWIVEL

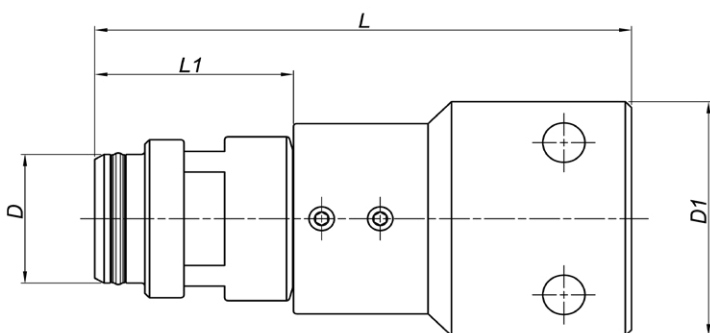
SERIES ASA31SWL



PART REF	NOMINAL BORE			W.P (bar)	W.P (psi)	L	L1	D	D1
	DASH	INCH	DN						
ASA31SWL-16-16	16	1	25	280	4060	111	41	31	55
ASA31SWL-20-20	20	1.1/4	31	210	3045	111	42	38	60
ASA31SWL-32-32	32	2	51	175	2537	128	44	56	85
ASA31SWL-40-40	40	2.1/2	63	70	1015	206	75	79	106

# ASH ROTARY STAPLE LOCK LIVE SWIVEL

SERIES ASH31SWL



PART REF	NOMINAL BORE			W.P (bar)	W.P (psi)	L	L1	D	D1
	DASH	INCH	DN						
ASH31SWL-16-16	16	1	25	420	6090	148	60	31	60
ASH31SWL-20-20	20	1.1/4	31	420	6090	165	58	38	70
ASH31SWL-24-24	24	1.1/2	38	420	6090	171	63	44	80
ASH31SWL-32-32	32	2	51	420	6090	182	66	50	95

ADDITIONAL PRODUCTS 230

## Stainless Steel Adaptors

Manuli Hydraulics' extended stainless steel staple adaptor programme builds upon the success of its existing and popular range, by offering SA adaptors in 303/304 Stainless steel.

These adaptors are ideally suited in underground water lines and highly corrosive environments, where extended service life represents a cost effective alternative to plated steel.



	PART REF	NOMINAL BORE			DESCRIPTION
		DASH	INCH	DN	
	ASA01-06-06-SS	6	3/8	10	Straight Female Adaptor
	ASA01-08-08-SS	8	1/2	12	Straight Female Adaptor
	ASA01-12-12-SS	12	3/4	20	Straight Female Adaptor
	ASA02-06-06-SS	6	3/8	10	90° Female Elbow
	ASA02-08-08-SS	8	1/2	12	90° Female Elbow
	ASA03-06-06-04-SS	6/4	3/8 / 1/4	10/06	Female Tee
	ASA03-06-06-06-SS	6	3/8	10	Female Tee
	ASA03-08-08-06-SS	08/06	1/2 / 3/8	12/10	Female Tee
	ASA03-08-08-08-SS	8	1/2	12	Female Tee
	ASA03-12-12-12-SS	12	3/4	19	Female Tee
	ASA03-12-12-06-SS	12/6	3/4 - 3/8	19/10	Female Tee
	ASA03-12-12-08-SS	12/8	3/4 - 1/2	19/12	Female Tee
	ASA12-06-06-SS	6	3/8	10	90° Swivel Female Elbow
	ASA12-08-08-SS	8	1/2	12	90° Swivel Female Elbow
	ASA12-12-12-SS	12	3/4	19	90° Swivel Female Elbow
	ASA13-06-06-06-SS	6	3/8	10	"T" Swivel Female
	ASA13-08-08-06-SS	8/6	1/2 - 3/8	12 /10	"T" Swivel Female
	ASA13-12-12-06-SS	12/6	3/4 - 3/8	19 /10	"T" Swivel Female
	ASA13-12-12-08-SS	12/8	3/4 - 1/2	19 /12	"T" Swivel Female
	ASA13-12-12-12-SS	12	3/4	19	"T" Swivel Female

## Stainless Steel Adaptors (Continued)

	PART REF	NOMINAL BORE			DESCRIPTION
		DASH	INCH	DN	
	ASA15-06-06-SS	6	3/8	10	135° Swivel Female
	ASA15-08-08-SS	8	1/2	12	136° Swivel Female
	ASA15-12-12-SS	12	3/4	19	137° Swivel Female
	ASA21-06-06-SS	6	3/8	10	Equal Straight Male
	ASA21-06-06-72-SS	6	3/8	10	Equal Straight Male 72mm
	ASA21-08-08-SS	8	1/2	12	Equal Straight Male
	ASA21-12-12-SS	12	3/4	20	Equal Straight Male
	ASA21-06-06-105-SS	6	3/8	10	Equal Straight Male 105 mm
	ASA21-08-08-85-SS	8	1/2	12	Equal Straight Male 85 mm
	ASA21-12-12-95-SS	8	1/2	12	Equal Straight Male 95 mm
	ASA21-08-06-SS	8/6	1/2 - 3/8	12 /10	Reducing Straight Male
	ASA21-12-08-SS	12/8	3/4 - 1/2	19/12	Reducing Straight Male
	ASA29-06-SS	6	3/8	10	Staple Male Plug
	ASA29-08-SS	8	1/2	12	Staple Male Plug
	ASA29-12-SS	12	3/4	19	Staple Male Plug
	ASA31F-08-06-SS	8/6	1/2 - 3/8	12/10	Male - Female Adaptor
	ASA32F-06-04-SS	6/4	3/8 - 1/4	10/06	90° Male - Female Elbow
	ASA32F-06-06-SS	6	3/8	10	90° Male - Female Elbow
	ASA32F-12-12-SS	12	3/4	20	90° Male - Female Elbow
	ASA32F-08-08-SS	8	1/2	12	90° Male - Female Adaptor
	ASA32-06-06-SS	6	3/8	10	90° Male - Swivel Female Adaptor
	ASA32-08-08-SS	8	1/2	12	90° Male - Swivel Female Adaptor
	ASA32-12-12-SS	12	3/4	12	90° Male - Swivel Female Adaptor



## Stainless Steel Adaptors (Continued)

	PART REF	NOMINAL BORE			DESCRIPTION
		DASH	INCH	DN	
	ASA33F-06-06-06-SS	6	3/8	10	Male - Female Tee "T" Port
	ASA33-06-06-06-SS	6	3/8	10	Male - "T" Swivel Female
	ASA33-08-08-08-SS	8	1/2	12	Male - "T" Swivel Female
	ASA34F-06-06-04-SS	6/4	3/8 - 1/4	10/6	Male - Female Tee "L" Port
	ASA34F-06-06-06-SS	6	3/8	10	Male - Female Tee "L" Port
	ASA34F-12-12-06-SS	12/6	3/4 - 3/8	20/10	Male - Female Tee "L" Port
	ASA34-06-06-06-SS	6	3/8	10	Male - "L" Swivel Female Adaptor
	ASA34-08-08-08-SS	8	1/2	12	Male - "L" Swivel Female Adaptor
	ASA34-08-08-06-SS	8/6	1/2 - 3/8	12 /10	Male - "L" Swivel Female Adaptor
	ASA35-06-06-SS	6	3/8	10	135° Male - Swivel Female Elbow
	ASA35-08-08-SS	8	1/2	12	135° Male - Swivel Female Elbow
	ASA35-12-12-SS	12	3/4	19	135° Male - Swivel Female Elbow

## Stainless Steel Inserts

Manuli Hydraulics' also offers a stainless steel option on the full range of staple hose inserts. To order an insert in stainless steel simply prefix an "I" to the standard carbon steel insert part number.

Example:

M14610 - Carbon Steel Insert → IM14610 - Stainless Steel Insert



## E-Coat 1000 - Over 1,000 hours of corrosion protection

Corrosion of fittings can have severely damaging effects on the life and reliability of hose assemblies. In cases where fittings are becoming corroded at an unacceptable rate, ISO/TS 17165-2:2018 recommends upgrading the fittings to ones with an alternative plating material suitable for the environment in which they will be used.

Manuli's standard E-Coat 500 plating is a first-class, long lasting solution which offers up to 500 hours to red rust in standard salt-spray tests, versus the required minimum of 144 hours as per SAE J516 (ISO 9227 method).

But Manuli have upped their game even further and can now offer the new E-Coat 1000 plating, which offers double the corrosion resistance of standard E-Coat 500 plating with minimal cost increase.

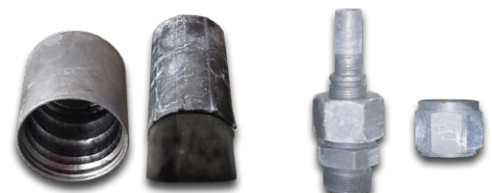
### E-Coat 1000 offers:

- High resistance in crimped conditions eg: ferrules and crimped back nuts
- Enhanced performance of corrosion resistance compared to the standard E-Coat 500 plating (over 1,000 hours before red corrosion in standard salt spray test conditions ASTM B117 and ISO 9227\*)
- Higher resistance to abrasion and handling than standard plating
- Full compliance with the European Directives REACH 1907/2006/EC, RoHS 2011/65/EC, ELV 2000/53/EC
- E-Coat 1000 is available as an option on all Manuli hydraulic fittings and flat-face quick couplings

E-Coat 1000 plating is the optimum solution for applications in severe environments and for demanding OEM specifications. It also offers even longer durability in standard hydraulic applications.

### Best-In-Class Corrosion Resistance - Putting it to the test

Many other fitting manufacturers declare the superb corrosion resistance of their fittings, so we tested E-Coat 1000 against the best of the competition. The results speak for themselves. The best comparable competitor coatings both declare 1,000 hours to red rust, however, they both began to show red corrosion after less than 500 hours, and were seriously corroded by 750 hours. In contrast, the Manuli sample with E-Coat 1000 was barely showing signs of white corrosion after more than 1,000 hours in salt spray conditions. Even crimped fittings with E-Coat 1000 lasted over 750 hours before showing significant signs of corrosion, despite the damage to the plating integrity which occurs during the mechanical deformation process of crimping.



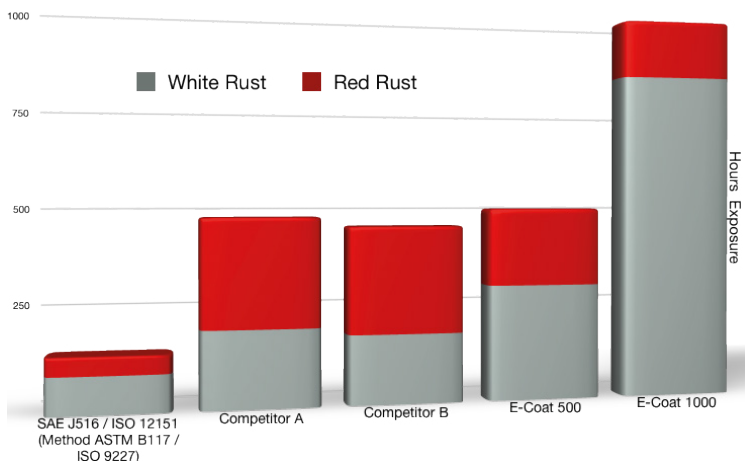
E-Coat 1000 after 1,000 hours  
ASTM B117 (ISO 9227) salt spray test



Competitor A after 1,000 hours  
ASTM B117 (ISO 9227) salt spray test



Competitor B after 1,000 hours  
ASTM B117 (ISO 9227) salt spray test



To order items with E-Coat 1000 plating, simply add the suffix "NK" to the part number when placing your orders.

Quantities and box sizes are as per standard fittings.

# Supa Grey 2000

**Supa Grey is a new coating for underground mining fittings that provides outstanding levels of ductility and corrosion resistance.**

By significantly extending the service life of fittings and minimising maintenance downtime, Supa Grey provides an ideal cost effective solution for harsh environment applications.

Offering up to 2,000 hours to red rust under salt spray test conditions, Supa Grey outlasts traditional zinc plated finishes by up to three times.

In addition, the excellent ductility of the coating maintains this exceptional performance, even after crimping or swaging, as it is not prone to the cracking or flaking that can affect other coating types.



### Key Benefits

- Up to 2,000 hours to red rust
- Excellent ductility
- Uniform coating
- Good thermal stability
- Unique appearance
- Galvanic corrosion resistance
- Superior abrasion performance
- High volume production process
- Extends service life up to 3 times

### Salt Spray Test

(ASTM B117, BS 7479, ISO 9227, NS DIN 5002)



Supa Grey 2000 hrs  
No red rust

Supa Grey < 12µm



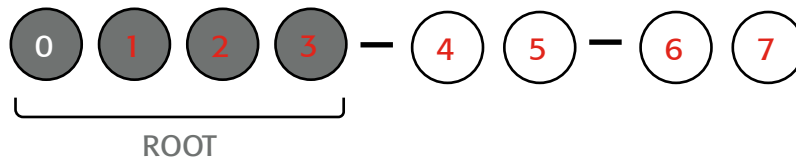
Tri Pass Silver  
500 hrs to red rust

Zinc Plating

<b>STANDARD SIZE EQUIVALENTS</b>			
<b>DN</b>	<b>DASH</b>	<b>MM</b>	<b>INCH</b>
05	3	4.8	3/16
06	4	6.3	1/4
08	5	8.0	5/16
10	6	9.5	3/8
12	8	12.7	1/2
16	10	16.0	5/8
19	12	19.0	3/4
25	16	25.4	1
31	20	32.0	1 1/4
38	24	38.0	1 1/2
51	32	50.8	2
60	38	60.0	2 3/8
63	40	63.5	2 1/2
76	48	76.2	3
89	56	88.9	3 1/2
102	64	101.6	4

<b>STANDARD THREAD SIZE COMPARISON</b>			
<b>DN</b>	<b>BSP</b>	<b>UNF</b>	<b>NPTF</b>
02	1/8" (28 TPI)	5/16" (24 TPI)	1/8" (27 TPI)
03	-	3/8" (24 TPI)	-
04	1/4" (19 TPI)	7/16" (20 TPI)	1/4" (18 TPI)
05	-	1/2" (20 TPI)	-
06	3/8" (19 TPI)	9/16" (18 TPI)	3/8" (18 TPI)
08	1/2" (14 TPI)	3/4" (16 TPI)	1/2" (14 TPI)
10	5/8" (14 TPI)	7/8" (14 TPI)	-
12	3/4" (14 TPI)	1 1/16" (12 TPI)	3/4" (14 TPI)
14	-	1 3/16" (12 TPI)	-
16	1"	1 5/16" (12 TPI)	1" (11.5 TPI)
19	1 1/4" (11 TPI)	1 5/8" (12 TPI)	1 1/4" (11.5 TPI)
25	1 1/2" (11 TPI)	1 7/8" (12 TPI)	1 1/2" (11.5 TPI)
31	2" (11 TPI)	2 1/1" (12 TPI)	2" (11.5 TPI)

# Underground Mining Adaptors



## Series Identification Letters

ASA	Traditional Staple Adaptor
ASH	High Pressure Staple Adaptor
ASAF / ASHF	FlushFit Staple Adaptor



## Style Code Numbers

Defines the adaptor shape and terminations



## Suffix Letter Code

Gives additional information about the adaptor style



## \*1st Pair Dash Size

States nominal bore size of 1st end



## \*2nd Pair Dash Size

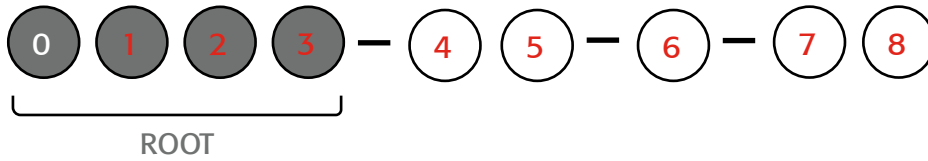
States terminal nominal bore size of 2nd end

## \*Notes for digits "4-5-6-7"

The following protocol is used for underground mining adaptors:

1. Threaded male ends have presidency and are stated first
2. Male staple ends are second in rank
3. Female staple ends are in second rank

# Underground Mining Ball Valves



## Series Identification Letters

ASAV	Traditional Staple Ball Valve
ASHV	High Pressure Staple Ball Valve



## Style Code Numbers

Defines the ball valve end styles



## Suffix Letter Code

Gives additional information about the end style



## 1st Group Dash Size

States nominal bore size



## 2nd Group

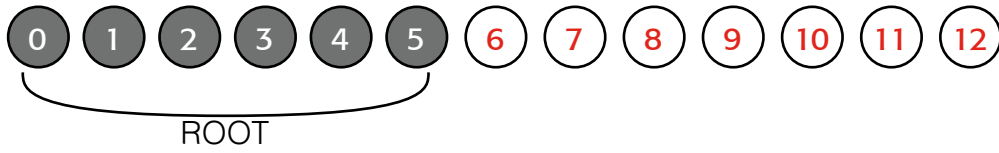
Defines handle style



## 3rd Group

Defines handle colour

# Hoses



“H” letter always means “Hoses”



## Family

“Five digit number” that defines a specific hose family - see “Hose Family Table”.

Digit “1”	Hose Type
0	Hydraulic rubber hose
2	Thermoplastic hose
3	Traded hose
7	Oil & marine hose
8	Industrial hose
9	PTFE hose

Digits “1-2”	Hose Type
10	Hydraulic rubber hose
16	Textile braided - Traded



Progressive letter (A, B, ... ) is used to identify an updated structure

In case a number is used, it must be read together with digits “7” and “8” to identify the hose’s diameter in mm



**Diameter** in millimetres

In case digit “6” is a number, the hose diameter in millimetres should be read including it.



## Hoses (continued)

**DIGIT "9"**

 0 1 2 3 4 5 6 7 8 **9** 10 11 12

Value	Package	Marking Technology
0	Box	Ink transfer
B	Reel	Ink transfer
P	Plastic reel	Ink transfer
R	Roll	Ink transfer
W	Wooden reel	Ink transfer
E	Defined in digit "10"	Embossed / embedded
I	Defined in digit "10"	Inkjet
M	Defined in digit "10"	Mylar

**DIGIT "10"**

 0 1 2 3 4 5 6 7 8 9 **10** 11 12

Value	Package	Special
L	Box ( $\leq$ DN51); Wooden reel ( $>$ DN51)	Branding with License Number
0	Box	-
B	Reel	-
P	Plastic reel	-
R	Roll	-
W	Wooden reel	-
A	Box	100 ft (spiralled) / 50 ft (GoldenBlast)
Q	Box	40 m (GoldenBlast)
S, V, Z, Y	Box	Special length
C	-	Branding without "Made in..." declaration

**DIGIT "11"**

 0 1 2 3 4 5 6 7 8 9 10 **11** 12

Value	Special
S, V, Z, Y	Special length
C	Branding without "Made in..." declaration
9	Manuli standard branding
0-8	Private brand



## Hoses (continued)

DIGIT 12"



Value

Special

9	Manuli standard branding
0-8	Private brand

### Notes for digits "9-10-11-12"

If the above convention is NOT followed then the branding is considered "Private". Exceptions related to "Manuli Brand" hoses are: x900; xx90; x556; x833; x962; xx97; xx95

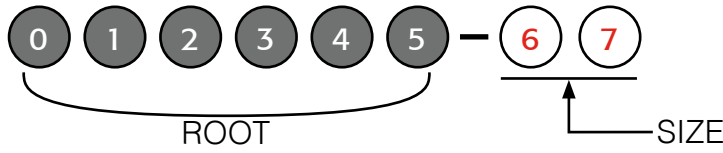
## Hoses Families

First 6 Digits	Prod. Tech.	Prod. Tech. Description	Family	Family Description
H01007	1	Wire Braided	7	ROCKMASTER/1SN
H01030	1	Wire Braided	30	ROCKMASTER/2SC
H01031	1	Wire Braided; Wire Spiralled	31	SHIELDMASTER/4000
H01032	1	Wire Braided; Wire Spiralled	32	SHIELDMASTER/5000
H01033	1	Wire Braided	33	CPH/2SC
H01035	1	Wire Braided	35	ROCKMASTER/2ST
H01038	1	Wire Braided	38	ROCKMASTER/2SN
H01058	1	Wire Braided	58	EQUATOR/1 BLACK
H01059	1	Wire Braided	59	EQUATOR/1 BLUE
H01101	1	Wire Braided	101	ROCKMASTER/2 PLUS
H01102	1	Wire Braided	102	ETERNITY/2
H01108	1	Wire Braided	108	ROCKMASTER/1SC
H01112	1	Wire Braided	112	TWINPOWER/PLUS
H01122	1	Wire Braided	122	SHIELDMASTER/2 PLUS MINE
H01124	1	Wire Braided	124	FIREND
H01125	1	Wire Braided	125	GOLDENISO/21 ANTIWEAR
H01126	1	Wire Braided	126	GOLDENISO/28 ANTIWEAR
H01128	1	Wire Braided	128	XTRAFLOW/ HT
H01129	1	Wire Braided	129	XTRAFLOW/2WB
H01134	1	Wire Braided	134	GOLDENISO/35 LONGLIFE
H01A32	1	Wire Braided; Wire Spiralled	A32	SHIELDMASTER/6000

## Hoses Families (continued)

First 6 Digits	Prod. Tech.	Prod. Tech. Description	Family	Family Description
H02011	2	Smooth Hoses	11	GOLDENISO/14
H10008	10	Wire Spiralled	8	ROCKMASTER/4SP
H10018	10	Wire Spiralled	18	DIAMONDSPIR
H10031	10	Wire Spiralled	31	ROCKMASTER/12
H10035	10	Wire Spiralled	35	ROCKMASTER/13
H10044	10	Wire Spiralled	44	ROCKMASTER/4SH
H10049	10	Wire Spiralled	49	ROCKMASTER/15
H10086	10	Wire Spiralled	86	SHIELDMASTER/6000 MINE
H10089	10	Wire Spiralled	89	GOLDENISO/45 LONGLIFE
H10091	10	Wire Spiralled	91	XTRAFLOW/4WS
H10093	10	Wire Spiralled	93	GOLDENISO/21 XTRAFLEX
H10095	10	Wire Spiralled	95	GOLDENISO/28 XTRAFLEX
H10096	10	Wire Spiralled	96	GOLDENISO/35 XTRAFLEX
H10097	10	Wire Spiralled	97	GOLDENISO/42 XTRAFLEX
H10098	10	Wire Spiralled	98	GOLDENISO/38 LONGLIFE
H10102	10	Wire Spiralled	102	DIAMONDSPIR/21
H10103	10	Wire Spiralled	103	DIAMONDSPIR/35
H10104	10	Wire Spiralled	104	DIAMONDSPIR/14

# Ferrules



## DIGIT "0"



Value	Ferrule Type
M	Ferrule MF2000
C	Ferrule or clamp A/C
K	Reusable ferrule

## DIGIT "1"



Value	Description
0	Always

## DIGITS "2-3"



Refer to Ferrule Series table.

## DIGIT "4"



Value	Issue of Ferrule
0	First issue of ferrule series
1	Second issue of ferrule series
2	Third issue of ferrule series
3	Fourth issue of ferrule series

## DIGIT "5"



Value	Special
0	Standard
1	Customised version
2	Customised version
...	...

## DIGITS "6-7"

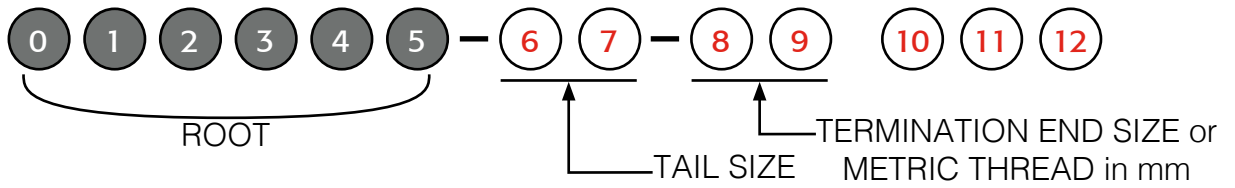


Hose bore size

## Ferrule Series

Digits	Description
01	Skive Ferrule for W.B Hoses
03	No-Skive Ferrule for Textile Braided Hoses / Star-Crimp Ferrule AC for RefriStar
04	Reusable Star-Fit Ferrule AC for RefriStar
07	Refrimaster Ferrule AC
08	No-Skive Ferrule for Compact Hoses
09	Skive Ferrule for W.B and W.S Hoses
10	Refrimaster Clamp
13	Double Skive Ferrule for H.D. Spiral Hoses (Interlock 4-6 ply)
14	Double Skive Ferrule for H.D. Spiral Hoses (Interlock 4 ply)
15	Double Skive Ferrule for H.D. Spiral Hoses (Interlock Plus 4 ply)
16	Double Skive Ferrule for H.D. Spiral Hoses (Interlock Plus 6 ply)
17	Double Skive Ferrule for Extra Duty Spiral Hoses (Blastlock-Xtralock 4 ply)
18	Double Skive Ferrule for Extra Duty Spiral Hoses (Blastlock-Xtralock 6 ply)
24	No-Skive Ferrule for Minifit
26	Double Skive Ferrule for Extra Duty Spiral Hoses (Interlock Super)
27	Double Skive Ferrule for Extra Duty Spiral Hoses (Interlock Super 6-8 ply)
28	Double Skive Ferrule for Extra Duty Spiral Hoses (Interlock Super)
31	No-Skive Ferrule for 1 W.B. Hoses
33	No-Skive Ferrule for W.B. Hoses
34	No-Skive Ferrule for W.B. Hoses
54	No-Skive Ferrule for 4 W.S. - 2 W.B. Hoses (Spiralfit)
55	No-Skive Ferrule for 4 W.S. - 6 W.S. Hoses (Spiralfit)
90	Frigostar Clamp

## Two-Piece Hydraulic Fittings



Value	Description
M	MF2000 Connector (Multifit, Interlock, Xtralock, ...)
O	Accessories (banjo, flange clamps, bolt, ...)
L	Push-Lock Connector



Value	Description
1	Male or Double connector type Multifit
2	Female or Flange type Multifit
3	Male or Double connector type Interlock and Interlock Plus
4	Female or Flange type Interlock and Interlock Plus
5	Male or Double connector type Xtralock
6	Female or Flange type Xtralock
7	Male or Double connector type Spiralfit
8	Female or Flange type Spiralfit / Accessories (flange clamps and bolt)
A	Male or Double connector type Interlock Super
B	Female or Flange type Interlock Super
S	Female type Minifit
T	Male type Minifit



The numbers in these positions specify the termination end or the second tail.  
 See "Termination Ends Type" table for coding details.

## Two-Piece Hydraulic Fittings (continued)

### DIGIT "4"



#### Value

#### Bending Angle

0	Special Bending Angle
1	Straight
2	22,5° Swept
3	30° Swept
4	Double connector
5	45° Swept
6	60° Swept
7	67,5° Swept
8	Compact type
9	90° Swept

### DIGIT "5"



#### Value

#### Description

0	No Nut / Male / Double skive Flange type Interlock/InterlockPlus/Xtralock
1	Crimped-back Nut / No-skive or External-skive Flange type Multifit/Spiralfit
2	Thrust-wire Nut
3	Slip-on Nut
4	Double Thrust-wire Nut
7	One-piece flange clamp (only for O8... Codes)
8	ISO/SAE code 61 split flange clamp (only for O8... Codes)
9	ISO/SAE code 62 split flange clamp (only for O8... Codes)

### DIGITS "6-7"



Tail size

### DIGITS "8-9"



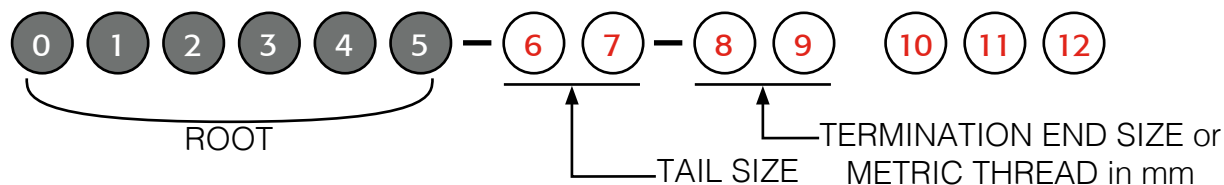
Termination end size

### DIGITS "10-11-12"



These digits specify various customisations related to dimensions, threads, drops, ...

# One-Piece Hydraulic Fittings



Value	Description
<b>OPB</b>	One-Piece (MF3000) Braided
<b>OPNS</b>	One-Piece (MF3000) No Skive
<b>OPS</b>	One-Piece (MF3000) Spiral
<b>OPK</b>	One-Piece (MF3000) No Skive Kompact
<b>OPF</b>	One-Piece (MF3000) No Skive Flat



Value	Description
<b>1</b>	Male
<b>2</b>	Female or Flange type



The numbers in these positions specify the termination end or the second tail.  
See "Termination Ends Type" table for coding details.



Value	Bending Angle
<b>0</b>	Special Bending Angle
<b>1</b>	Straight
<b>2</b>	22,5° Swept
<b>3</b>	30° Swept
<b>4</b>	45° Swept
<b>6</b>	60° Swept
<b>7</b>	67,5° Swept
<b>8</b>	Compact type
<b>9</b>	90° Swept

## One-Piece Hydraulic Fittings (continued)

### DIGIT "5"



#### Value

#### Description

Value	Description
0	Flange type Interlock/Xtralock/Multispiral or Male
1	Crimped-back Nut or Flange type Multifit
2	Thrust-wire Nut
3	Slip-on Nut

### DIGITS "6-7"



Tail size

### DIGITS "8-9"



Termination end size

### DIGITS "10-11-12"



These digits specify various customisations related to dimensions, threads, drops, ...



## Termination End Types

Digit	Fittings	Q.Safe	Description (Male End)	Description (Female End)
00	00	-	Double connector (same tail in two-ends connectors) / No end (plug)	No end (plug)
01	-	01	BSP Male DIN 3852-11 - ISO 1179-2 Heavy Duty "form E"	Fixed Female GAS JIS B 2351 "type O"
02	-	02	BSP Male Tapered Thread Long	BSP Female Tapered
03	03		BSP Male Parallel Thread O'R Flat Face (ISO 1179-3)	BSP Banjo
04	-	04	BSP Male Bulkhead	BSP Fixed Female DIN 3852-2 "form X" / ISO 1179-1
05	05	05	BSP Male 60° cone seat BS5200 / ISO 8434-6	BSP Female 60° cone BS5200 / ISO 8434-6
06	06	-	BSP Male Flat Face	BSP Female Flat seat
07	07	-	BSPT Male	JIS B 8363 (BSP - Nissan) Swivel Female
08	08	08	Metric Bolt DIN 7643	BSP O-Ring Female 60° cone BS5200 / ISO 8434-6
09	09	-	BSP Male O'Ring Boss Adjustable ISO 1179-3	Metric Banjo DIN 7642
10	10	-	Metric male 60° cone superlight DIN 3863	Metric female 60° cone superlight DIN 3863
11	11	11	Metric male 24° cone seat light type DIN 3861 / ISO 8434-1	-
12	12	12	Metric male 24° cone seat heavy type DIN 3861 / ISO 8434-1	Metric Female 24° cone O'Ring heavy type DIN 3865 / ISO 8434-1 Long Drop
13	13	-	-	Metric Female Multiseal cone DIN 3868
14		14	Metric Male DIN 3852-11 "form E" b/ ISO 9974-2	"Metric Fixed Female DIN 3852-1 "form X" and "form Y"
15	15	-	-	Metric Female 24° cone O'Ring light type DIN 3865 / ISO 8434-1
16	16	-	-	Metric Female 24° cone O'Ring heavy type DIN 3865 / ISO 8434-1
17	17	-	French Millimetric metric male 24° cone seat	French Millimetric metric female
18	18	-	French GAZ metric male 24° cone seat	French GAZ metric female
19	-	19	Metric Male (Adjustable + Non-Adjustable Heavy) ISO 6149-2	Metric Fixed Female ISO 6149-1
20	20	-	-	DIN Metric Standpipe L.T. DIN 2353
21	21	-	-	DIN Metric Standpipe H.T. DIN 2353

## Termination End Types (continued)

Digit	Fittings	Q.Safe	Description (Male End)	Description (Female End)
23	-	23	JIC Bulkhead male 37° cone ISO 8434-2 / SAE J514	-
24	24	24	ORFS male ISO 8434-3 / SAE J1453	ORFS female ISO 8434-3 / SAE J1453
25	25	25	JIC male (37° cone) ISO 8434-2 / SAE J514	JIC female (37° cone seat) ISO 8434-2 / SAE J514
26	26	-	-	SAE female (45° cone seat) SAE J512
27	27	27	ORFS Bulkhead male ISO 8434-3 / SAE J1453	JIC female double hexagon 37° cone seat
28	28	28	NPTF Male 60° cone seat SAE J476a	NPSM Swivel Female 60° cone SAE J514
30	30	30	Male O'Ring Boss type SAE J1926-3	Female Port SAE J1926-1
32	-	32	Male O'Ring Boss (Adjustable + Non-Adjustable Heavy) SAE J1926-2	-
33	33	-	Flange head (not including Clamps) Code 61 without O'Ring (adapters)	Flange ISO/SAE 61 (ISO 6162-1 / SAE J518 code 61)
34	34	34	API Male	NPTF Fixed Female SAE J476a
35	35	-	NPT Male	NPT Fixed Female
36	36	-	Flange head (not including Clamps) Code 62 without O'Ring (adapters)	Flange ISO/SAE 62 (ISO 6162-2 / SAE J518 code 62)
37	37	37	Metric male 60° cone superlight DIN 3863 Bulkhead	Flange ISO/SAE 62 Plus / Flange (A/C)
38	38	-	JIS B8363 Toyota male	JIS B 8363 (Toyota) Swivel Female
39	39	-	JIS male O-Ring boss - JIS B 8363 type CO	SUPERCAT flange
40	40	-	Komatsu Metric male 60° cone seat	JIS B 8363 (Komatsu) Swivel Female
41	41	-	NPTF Swivel Male SAE J476a	Komatsu Flange
43	43	-	SAE O'Ring Boss Swivel Male	-
44	44	-	Male BSPP Flat Face Bonded Washer	ORFS Female Long Drop Elbow ISO 12151-1 / SAE
46	46	-	Super Staple Male	Super Staple Fixed Female
47	47	-	Super Staple Male (only for Interlock Plus and Spiralfit)	JIC (37° cone) Female Long Drop Elbow ISO 12151-5 / SAE J516
48	48	-	Staple Male SAE J1467	Staple Fixed Female SAE J1467
49	49	-	-	Wash Cleaning
52	52	-	SAE 45° cone Metric Thread	SAE 45° cone Metric Thread
55	55	-	BSP Parallel Thread 60° cone BS5200 (only for Interlock/Xtralock tail)	BSP Parallel Thread 60° cone BS5200 (only for Interlock/Xtralock tail)
56	56	-	Union Fitting (Male SUB)	Union Fitting (Female SUB)
57	-	-	BSP Male Tapered Thread - JIS B 8363	BSP Swivel Female (only for Interlock/Xtralock tail)

## Termination End Types (continued)

Digit	Fittings	Q.Safe	Description (Male End)	Description (Female End)
58	58	-	GOST Male	BSP Parallel Thread O'Ring 60° cone BS5200 (only for Interlock/Xtralock tail)
59	59	-	Flushfit Male Low Pressure	Flushfit Fixed Female Low Pressure
60	-	-	Metric thread 74° cone	Metric thread 74° cone
61	61		Flushfit Male High Pressure	Flushfit Fixed Female High Pressure
62	62	-	Male Metric Thread 24° cone heavy type DIN 3861 (only for Interlock/Xtralock tail)	Flushfit Swivel Female Low Pressure
63	63	-	Type M Female 58° cone	-
64	-	-	BSP Male front seal Flushfit Swivel Female High Pressure	-
66	66	-	-	Metric Female 24° cone O'Ring heavy type DIN 3865 / ISO 8434-2 (only for Blastlock / Xtralock); Grayloc Hub (only for Drilling)
67	67	-	Standard SSKV	Standard SSKV
68	68	-	Super SSKV	Super SSKV
74	74	-	ORFS type (only for Interlock/Xtralock tail)	ORFS type (only for Interlock/Xtralock tail)
75	75	-	JIC Thread 37° cone (only for Interlock/Xtralock tail)	JIC Thread 37° cone (only for Interlock/Xtralock tail)
76	76	-	Expansion valve short pilot (A/C)	ISO 6164 FLANGE type 40MPa / Expansion valve (A/C)
77	-	77	DIN Bulkhead Male 24° cone Light type ISO 8434-1	-
78	78	-	"NPTF Male 60° cone seat SAE J476a (only for Interlock	Blastlock/Xtralock)"
79	79	-	Fixed Male O'Ring seat (A/C)	HUB API 16A (type 16BX) / Female O'Ring (A/C)
80	80	-	Male Swivel O'Ring (A/C)	FLANGE API 6A (type 6B/6BX) / O'Ring short pilot (A/C)
81	81	-	Male Grooved	French GAZ Standpipe
82	-	82	French GAZ Bulkhead metric male 24° cone seat	Staple Lock Swivel Female
83	83	-	4-Bolts Flange head Code 61 without O'Ring (adapters)	Flange ISO/SAE 61 (ISO 6162-1 / SAE J518 code 61) / 4-Bolts Flange head Code 61 (adapters)
84	84	-	-	Xtraflange 61 (ISO6162-1 / SAE J518 code 61 port compatible)
85	85	-	-	XtraFlange 62 (ISO 6162-2 / SAE J518 code 62 port compatible)

## Termination End Types (continued)

Digit	Fittings	Q.Safe	Description (Male End)	Description (Female End)
86	86	-	4-Bolts Flange head Code 62 without O'Ring (adapters)	Flange ISO/SAE 62 (ISO 6162-2 / SAE J518 code 62) - only for Xtralock / 4-Bolts Flange head Code 62 (Adapters)
87	87	87	DIN Bulkhead Male 24° cone Heavy type ISO 8434-1	ASME B16.5 FLANGE / SDB compressor (A/C)
88	-	-	Male Metric Tapered Thread	Male Metric Tapered Thread
89	89	-	SUPERCAT flange (only for Interlock/Xtralock tail)	SUPERCAT flange (only for Interlock/Xtralock tail)
91	91	-	-	Gear Pump Flange
92	92	-	-	NSD ( Non Stop Driller) Clamp Connection
95	95	-	Brazing Pipe (Fittings)	Brazing socket (Fittings) / Beveled To Weld (only Drilling)
97	97	-	Metric Male with 90° Male Cone ISO 4038	Metric Female DIN 74225

Digits	Accessories for connectors (O8...)
33	Clamps for flange ISO/SAE 61
36	Clamps for flange ISO/SAE 62
85	Xtraflange Clamps
02	BSP Bolt
08	BSP Bolt Double Hole
08	Metric Bolt DIN 7643
2H	Cartridge for Easy-Fit High Pressure
00	Drilling Safety Clamp
00	Drilling Lift Eye
20	Anti-Kink
21	Metal Sleeve
41	2 Holes Flange Clamp
42	Armour - Joint
81	Clamps for Male Grooved

Digits	Easy-Fit / Fast-Fit
1H	Oyster High Pressure
2H	Easy-Fit High Pressure (Cejn)
1L	Easy-Fit Low Pressure (Oyster)
3H	Fast-Fit









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