

MOOG

Cartridge Covers Series NG16 – NG100

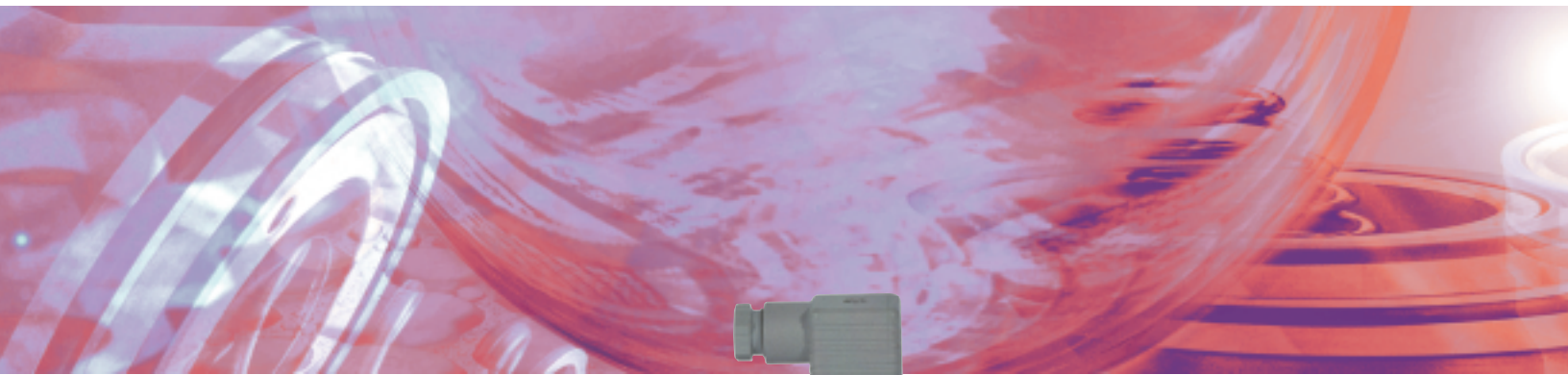
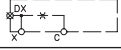
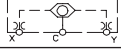
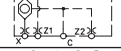
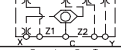
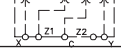
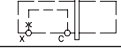
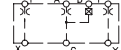
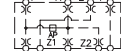
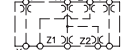
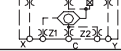
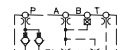
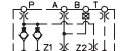
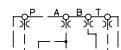
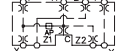
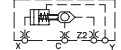


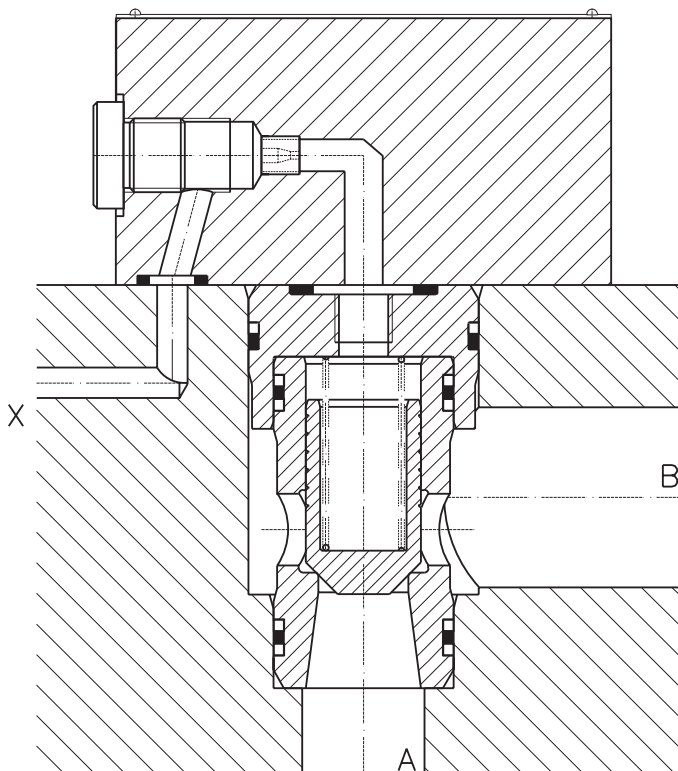
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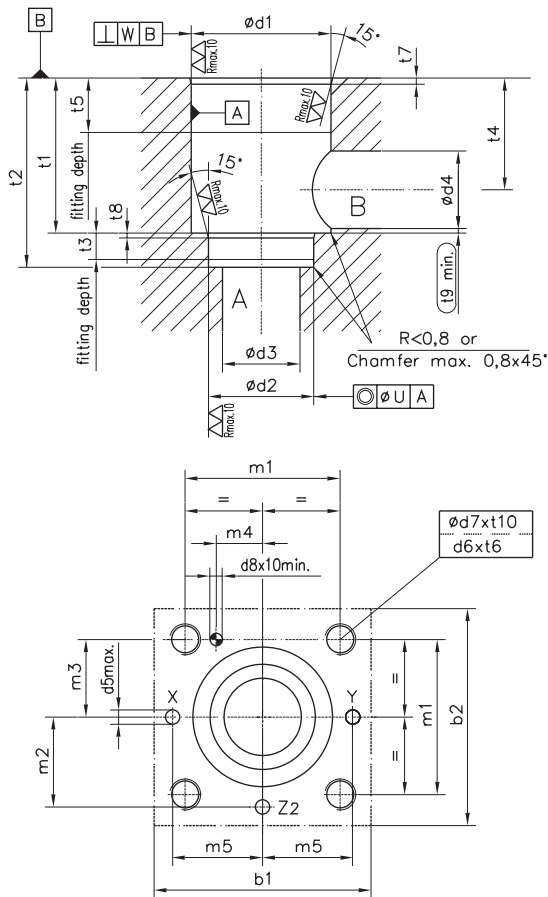
General Description and Operating Principle

General Description

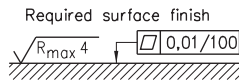
Cartridge Covers are used in conjunction with cartridge valves to create a complete assembly in a manifold block. This combination offers different options to the designer to create flow, check, pressure control and directional control functions. Through proper selection of cartridge and cover combinations multiple functions through one flow path can be achieved. Moog Manifold Systems offers a variety of cover designs to help the designer to efficiently design a manifold system. Moog Manifold Systems' product offering include a wide selection of covers in size range from NG16-NG100. Some types of covers offer combination functions like built in check valves, shuttle valves and also the convenience of a pilot valve mounting interface. All covers provide designs conform to DIN 24342. Proper use of these covers provide design flexibility and economical use of and reduction of external fluid connections. A detailed review of the covers and their functions is found in the following pages.



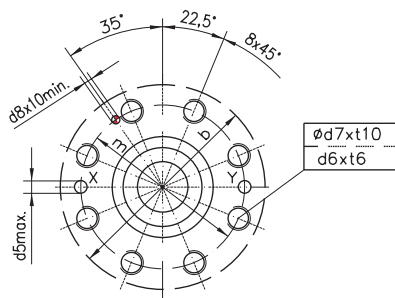
Cavity and Porting Pattern as per DIN 24342 Cavity as per ISO 7368



NGI 6-NG63



Dimensions [mm]	NGI 6	NG25	NG32	NG40	NG50	NG63
b1	75	90	102	125	140	200
b2	65	85	102	125	140	180
d1 H7	32	45	60	75	90	120
d2 H7	25	34	45	55	68	90
d3	16	25	32	40	50	63
d4	16	25	32	40	50	63
d4 max	25	32	40	50	63	80
d5 max	4	6	8	10	10	12
d6	M8	M12	M16	M20	M20	M30
d7	6.8	10.2	14	17.5	17.5	26.5
d8 H13	4	6	6	6	8	8
m1 ±0.2	46	58	70	85	100	125
m2 ±0.2	25	33	41	50	58	75
m3 ±0.2	23	29	35	42.5	50	62.5
m4 ±0.2	10.5	16	17	23	30	38
m5 ±0.2	25	33	41	50	58	75
t1 +0.1	43	58	70	87	100	130
t2 +0.1	56	72	85	105	122	155
t3	11	12	13	15	17	20
t4	34	44	52	64	72	95
t4 at d4 max	29.5	40.5	48	59	65.5	86.5
t5	20	30	30	30	35	35
t6	14	20	26	33	33	50
t7	2	2.5	2.5	3	4	4
t8	2	2.5	2.5	3	3	4
t9	0.5	1.0	1.5	2.5	2.5	3
t10	17	24	31	38	38	56
U	0.03	0.03	0.03	0.05	0.05	0.05
W	0.05	0.05	0.1	0.1	0.1	0.2



NG80-NG100

Dimensions [mm]	NG80	NG100
b max	250	300
d1 H7	145	180
d2 H7	110	135
d3	80	100
d4	80	100
d4 max	100	125
d5 max	16	20
d6	M24	M30
d7	21	26.5
d8H13	10	10
t1	175	210
t2 +0.2	205	245
t3	25	29
t4	130	155
t4 at d4 max	120	142.5
t5	40	50
t6	39	50
t7	5	5
t8	5	5
t9	3	5
t10	45	56
m ±0.3	200	245
U	0.05	0.05
V	0.2	0.2

Standard Models

Type ID

Symbol	Type	Size	Style	Description										Part #
				Orifice Configuration (Port/Size) *										
				P	A	B	T	C	X	Z1	Z2	Y	OTHER	
	CCE	16	ID	WITHOUT ORIFICE IN ANY PORT										XEBI1774-000-01
		16							08					
				Port DX: G1/8"										
	CCE	25	ID	WITHOUT ORIFICE IN ANY PORT										XEBI1799-000-01
		25							10					
				Port DX: G1/8"										
	CCE	32	ID	WITHOUT ORIFICE IN ANY PORT										XEBI1825-000-01
		32							12					
				Port DX: G1/4"										
	CCE	40	ID	WITHOUT ORIFICE IN ANY PORT										XEBI1851-000-01
		40							12					
				Port DX: G1/2"										
	CCE	50	ID	WITHOUT ORIFICE IN ANY PORT										XEBI1877-000-01
		50							15					
				Port DX: G1/2"										
	CCE	63	ID	WITHOUT ORIFICE IN ANY PORT										XEBI1903-000-01
		63							20					
				Port DX: G3/4"										
	CCE	80	ID	WITHOUT ORIFICE IN ANY PORT										XEBI1929-000-01
		80							25					
				Port DX: G3/4"										
	CCE	100	ID	WITHOUT ORIFICE IN ANY PORT										XEBI1955-000-01
		100							25					
				Port DX: G1"										

* For other orifice configuration, see order sample on page 34.

Type 2D

Symbol	Type	Size	Style	Description										Part #
				Orifice Configuration (Port/Size) *										
				P	A	B	T	C	X	Z1	Z2	Y	OTHER	
	CCE	16	2D	WITHOUT ORIFICE IN ANY PORT										XEBI1775-000-01
		16							08					
	CCE	25	2D	WITHOUT ORIFICE IN ANY PORT										XEBI1800-000-01
		25							10					
	CCE	32	2D	WITHOUT ORIFICE IN ANY PORT										XEBI1826-000-01
		32							12					
	CCE	40	2D	WITHOUT ORIFICE IN ANY PORT										XEBI1852-000-01
		40							12					
	CCE	50	2D	WITHOUT ORIFICE IN ANY PORT										XEBI1878-000-01
		50							15					
	CCE	63	2D	WITHOUT ORIFICE IN ANY PORT										XEBI1904-000-01
		63							20					
	CCE	80	2D	WITHOUT ORIFICE IN ANY PORT										XEBI1930-000-01
		80							25					
	CCE	100	2D	WITHOUT ORIFICE IN ANY PORT										XEBI1956-000-01
		100							25					

* For other orifice configuration, see order sample on page 34.

Standard Models

Type 2DR

Symbol	Type	Size	Style	Description										Part #
				Orifice Configuration (Port/Size) *										
				P	A	B	T	C	X	Z1	Z2	Y	OTHER	
	CCE	16	2DR	WITHOUT ORIFICE IN ANY PORT										XEBI3252-000-01
		16						08	08	08			XEBI3252-001-01	
	CCE	25	2DR	WITHOUT ORIFICE IN ANY PORT										XEBI3253-000-01
		25						10	10	10			XEBI3253-001-01	
	CCE	32	2DR	WITHOUT ORIFICE IN ANY PORT										XEBI3254-000-01
		32						12	12	12			XEBI3254-001-01	
	CCE	40	2DR	WITHOUT ORIFICE IN ANY PORT										XEBI3255-000-01
		40						12	12	12			XEBI3255-001-01	
	CCE	50	2DR	WITHOUT ORIFICE IN ANY PORT										XEBI3256-000-01
		50						15	15	15			XEBI3256-001-01	
	CCE	63	2DR	WITHOUT ORIFICE IN ANY PORT										XEBI3257-000-01
		63						20	20	20			XEBI3257-001-01	
	CCE	80	2DR	WITHOUT ORIFICE IN ANY PORT										XEBI3258-000-01
		80						25	25	25			XEBI3258-001-01	
	CCE	100	2DR	WITHOUT ORIFICE IN ANY PORT										XEBI3259-000-01
		100						30	30	30			XEBI3259-001-01	

* For other orifice configuration, see order sample on page 34.

Type 2WR

Symbol	Type	Size	Style	Pilot Valve Mounting	Description										Part #
					Orifice Configuration (Port/Size)*										
					P	A	B	T	C	X	Z1	Z2	Y	OTHER	
	CCE	16	2WR	06	WITHOUT ORIFICE IN ANY PORT										XEB13172-000-01
		16			10					08					XEB13172-001-01
	CCE	25	2WR	06	WITHOUT ORIFICE IN ANY PORT										XEB12843-000-01
		25			12					10					XEB12843-001-01
	CCE	32	2WR	06	WITHOUT ORIFICE IN ANY PORT										XEB13173-000-01
		32			12					10					XEB13173-001-01
	CCE	40	2WR	06	WITHOUT ORIFICE IN ANY PORT										XEB13174-000-01
		40			15					12					XEB13174-001-01
	CCE	50	2WR	06	WITHOUT ORIFICE IN ANY PORT										XEB13175-000-01
		50			20					15					XEB13175-001-01
	CCE	63	2WR	10	WITHOUT ORIFICE IN ANY PORT										XEB13176-000-01
		63			25					20					XEB13176-001-01
	CCE	80	2WR	10	WITHOUT ORIFICE IN ANY PORT										XEB13177-000-01
		80			30					25					XEB13177-001-01
	CCE	100	2WR	10	WITHOUT ORIFICE IN ANY PORT										XEB13178-000-01
		100			30					25					XEB13178-001-01

* For other orifice configuration, see order sample on page 34.

Standard Models

Type 4D

Symbol	Type	Size	Style	Pilot Valve Mounting	Description										Part #
					Orifice Configuration (Port/Size) *										
					P	A	B	T	C	X	Z1	Z2	Y	OTHER	
	CCE	16	4D	06	WITHOUT ORIFICE IN ANY PORT										XEB11792-000-01
		16			10										
	CCE	25	4D	06	WITHOUT ORIFICE IN ANY PORT										XEB11817-000-01
		25			12										
	CCE	32	4D	06	WITHOUT ORIFICE IN ANY PORT										XEB11843-000-01
		32			12										
	CCE	40	4D	06	WITHOUT ORIFICE IN ANY PORT										XEB11869-000-01
		40			15										
	CCE	50	4D	06	WITHOUT ORIFICE IN ANY PORT										XEB11895-000-01
		50			15										
	CCE	63	4D	10	WITHOUT ORIFICE IN ANY PORT										XEB11921-000-01
		63			20										
	CCE	80	4D	10	WITHOUT ORIFICE IN ANY PORT										XEB11947-000-01
		80			25										
	CCE	100	4D	10	WITHOUT ORIFICE IN ANY PORT										XEB11973-000-01
		100			30										

* For other orifice configuration, see order sample on page 34.

Type IH

Symbol	Type	Size	Style	Description										Part #
				Orifice Configuration (Port/Size) *										
				P	A	B	T	C	X	Z1	Z2	Y	OTHER	
	CCE	16	IH2	WITHOUT ORIFICE IN ANY PORT										XEBI1777-000-01
		16							08					
	CCE	25	IH2	WITHOUT ORIFICE IN ANY PORT										XEBI1802-000-01
		25							10					
	CCE	32	IH2	WITHOUT ORIFICE IN ANY PORT										XEBI1828-000-01
		32							12					
	CCE	40	IH2	WITHOUT ORIFICE IN ANY PORT										XEBI1854-000-01
		40							12					
	CCE	50	IH2	WITHOUT ORIFICE IN ANY PORT										XEBI1880-000-01
		50							15					
	CCE		IH2	DX: No Port										
	CCE	63	IH2	WITHOUT ORIFICE IN ANY PORT										XEBI1906-000-01
		63							20					
	CCE		IH2	DX: No Port										
	CCE	80	IH2	WITHOUT ORIFICE IN ANY PORT										XEBI1932-000-01
		80							25					
	CCE		IH2	DX: No Port										
	CCE	100	IH2	WITHOUT ORIFICE IN ANY PORT										XEBI1958-000-01
		100							25					
	CCE		IH2	DX: No Port										

* For other orifice configuration, see order sample on page 34.

Standard Models

Type RM

Symbol	Type	Size	Style	Pilot Valve	Description										Part #
					Orifice Configuration (Port/Size) *										
					P	A	B	T	C	X	Z1	Z2	Y	OTHER	
	CCE	16	RM	P06	WITHOUT ORIFICE IN ANY PORT										XEB11785-000-01
		16			10		00								XEB11785-001-01
25		WITHOUT ORIFICE IN ANY PORT										XEB11810-000-01			
25		12				00								XEB11810-001-01	
32		WITHOUT ORIFICE IN ANY PORT										XEB11836-000-01			
32		12				00								XEB11836-001-01	
40		WITHOUT ORIFICE IN ANY PORT										XEB11862-000-01			
40		15				00								XEB11862-001-01	
50		WITHOUT ORIFICE IN ANY PORT										XEB11888-000-01			
50		15				00								XEB11888-001-01	
63		WITHOUT ORIFICE IN ANY PORT										XEB11914-000-01			
63		20				00								XEB11914-001-01	
80		WITHOUT ORIFICE IN ANY PORT										XEB11940-000-01			
80		25				00								XEB11940-001-01	
100		WITHOUT ORIFICE IN ANY PORT										XEB11966-000-01			
100		30				00								XEB11966-001-01	

* For other orifice configuration, see order sample on page 34.

Type IWDB

Symbol	Type	Size	Style	Pilot Valve	Description										Part #
					Orifice Configuration (Port/Size) *										
					P	A	B	T	C	X	Z1	Z2	Y	OTHER	
	CCE	16	IWDB	P06	WITHOUT ORIFICE IN ANY PORT										XEB14868-000-01
		16							08	10					XEB14868-001-01
	CCE	25	IWDB	P06	WITHOUT ORIFICE IN ANY PORT										XEB13585-000-01
		25							10	12					XEB13585-001-01
	CCE	32	IWDB	P06	WITHOUT ORIFICE IN ANY PORT										XEB13583-000-01
		32							10	12					XEB13583-001-01
	CCE	40	IWDB	P06	WITHOUT ORIFICE IN ANY PORT										XEB13597-000-01
		40							10	12					XEB13597-001-01
	CCE	50	IWDB	P06	WITHOUT ORIFICE IN ANY PORT										XEB14883-000-01
		50							10	12					XEB14883-001-01
	CCE	63	IWDB	P10	WITHOUT ORIFICE IN ANY PORT										XEB14539-000-01
		63							18	20					XEB14539-001-01
	CCE	80	IWDB	P10	WITHOUT ORIFICE IN ANY PORT										XEB14882-000-01
		80							20	25					XEB14882-001-01
	CCE	100	IWDB	P10	WITHOUT ORIFICE IN ANY PORT										XEB16967-000-01
		100							30	25					XEB16967-001-01

* For other orifice configuration, see order sample on page 34.

Standard Models

Type IW

Symbol	Type	Size	Style	Pilot Valve	Description										Part #
					Orifice Configuration (Port/Size) *										
					P	A	B	T	C	X	Z1	Z2	Y	OTHER	
	CCE	16	IW	P06	WITHOUT ORIFICE IN ANY PORT										XEB11778-000-01
		16			10	08									
	CCE	25	IW	P06	WITHOUT ORIFICE IN ANY PORT										XEB11803-000-01
		25			12	10									
	CCE	32	IW	P06	WITHOUT ORIFICE IN ANY PORT										XEB11829-000-01
		32			12	10									
	CCE	40	IW	P06	WITHOUT ORIFICE IN ANY PORT										XEB11855-000-01
		40			15	12									
	CCE	50	IW	P06	WITHOUT ORIFICE IN ANY PORT										XEB11881-000-01
		50			15	12									
	CCE	63	IW	P10	WITHOUT ORIFICE IN ANY PORT										XEB11907-000-01
		63			20	15									
	CCE	80	IW	P10	WITHOUT ORIFICE IN ANY PORT										XEB11933-000-01
		80			25	20									
	CCE	100	IW	P10	WITHOUT ORIFICE IN ANY PORT										XEB11959-000-01
		100			30	25									

* For other orifice configuration, see order sample on page 34.

Type 2W

Symbol	Type	Size	Style	Pilot Valve	Description										Part #
					Orifice Configuration (Port/Size) *										
					P	A	B	T	C	X	Z1	Z2	Y	OTHER	
	CCE	16	2W	P06	WITHOUT ORIFICE IN ANY PORT										XEB11780-000-01
		16			10		00				08				XEB11780-001-01
	CCE	25	2W	P06	WITHOUT ORIFICE IN ANY PORT										XEB11805-000-01
		25			12		00				10				XEB11805-001-01
	CCE	32	2W	P06	WITHOUT ORIFICE IN ANY PORT										XEB11831-000-01
		32			12		00				10				XEB11831-001-01
	CCE	40	2W	P06	WITHOUT ORIFICE IN ANY PORT										XEB11857-000-01
		40			15		00				12				XEB11857-001-01
	CCE	50	2W	P06	WITHOUT ORIFICE IN ANY PORT										XEB11883-000-01
		50			15		00				12				XEB11883-001-01
	CCE	63	2W	P10	WITHOUT ORIFICE IN ANY PORT										XEB11909-000-01
		63			20		00				20				XEB11909-001-01
	CCE	80	2W	P10	WITHOUT ORIFICE IN ANY PORT										XEB11935-000-01
		80			25		00				25				XEB11935-001-01
	CCE	100	2W	P10	DZ2: No Port										
		100			WITHOUT ORIFICE IN ANY PORT										XEB11961-000-01
	CCE	100	2W	P10	DZ1: No Port										
		100			30		00				25				XEB11961-001-01

* For other orifice configuration, see order sample on page 34.

Standard Models

Type 4W

Symbol	Type	Size	Style	Pilot Valve	Description										Part #
					Orifice Configuration (Port/Size) *										
					P	A	B	T	C	X	Z1	Z2	Y	OTHER	
	CCE	16	4W	P06	WITHOUT ORIFICE IN ANY PORT										XEB11781-000-01
		16			10		00								
	CCE	25	4W	P06	WITHOUT ORIFICE IN ANY PORT										XEB11806-000-01
		25			12		00								
	CCE	32	4W	P06	WITHOUT ORIFICE IN ANY PORT										XEB11832-000-01
		32			12		00								
	CCE	40	4W	P06	WITHOUT ORIFICE IN ANY PORT										XEB11858-000-01
		40			15		00								
	CCE	50	4W	P06	WITHOUT ORIFICE IN ANY PORT										XEB11884-000-01
		50			15		00								
	CCE	63	4W	P10	WITHOUT ORIFICE IN ANY PORT										XEB11910-000-01
		63			20		00								
	CCE	80	4W	P10	WITHOUT ORIFICE IN ANY PORT										XEB11936-000-01
		80			25		00								
	CCE	100	4W	P10	DZ2: No Port										
		100			WITHOUT ORIFICE IN ANY PORT										XEB11962-000-01
					25		00								XEB11962-001-01
					DX and DZ1 are external orifice location for X and Z1										

* For other orifice configuration, see order sample on page 34.

Type 5W

Symbol	Type	Size	Style	Pilot Valve	Description										Part #
					Orifice Configuration (Port/Size) *										
					P	A	B	T	C	X	Z1	Z2	Y	OTHER	
	CCE	16	5W	P06	WITHOUT ORIFICE IN ANY PORT										XEB13158-000-01
		16			10		00								
	CCE	25	5W	P06	WITHOUT ORIFICE IN ANY PORT										XEB12582-000-01
		25			12		00								
	CCE	32	5W	P06	WITHOUT ORIFICE IN ANY PORT										XEB12682-000-01
		32			12		00								
	CCE	40	5W	P06	WITHOUT ORIFICE IN ANY PORT										XEB13159-000-01
		40			15		00								
	CCE	50	5W	P06	WITHOUT ORIFICE IN ANY PORT										XEB13160-000-01
		50			15		00								
	CCE	63	5W	P10	WITHOUT ORIFICE IN ANY PORT										XEB131619-000-01
		63			20		00								
	CCE	80	5W	P10	WITHOUT ORIFICE IN ANY PORT										XEB13162-000-01
		80			25		00								
	CCE	100	5W	P10	WITHOUT ORIFICE IN ANY PORT										XEB13163-000-01
		100			25		00								

* For other orifice configuration, see order sample on page 34.

Standard Models

Type 7W

Symbol	Type	Size	Style	Pilot Valve	Description										Part #
					Orifice Configuration (Port/Size) *										
					P	A	B	T	C	X	Z1	Z2	Y	OTHER	
	CCE	16	7W	P06	WITHOUT ORIFICE IN ANY PORT										XEBI3273-000-01
		16			10										
	CCE	25	7W	P06	WITHOUT ORIFICE IN ANY PORT										XEBI3274-000-01
		25			12										XEBI3274-001-01
	CCE	32	7W	P06	WITHOUT ORIFICE IN ANY PORT										XEBI3275-000-01
		32			12										XEBI3275-001-01
	CCE	40	7W	P06	WITHOUT ORIFICE IN ANY PORT										XEBI3276-000-01
		40			15										XEBI3276-001-01
	CCE	50	7W	P06	WITHOUT ORIFICE IN ANY PORT										XEBI3277-000-01
		50			15										XEBI3277-001-01
	CCE	63	7W	P10	WITHOUT ORIFICE IN ANY PORT										XEBI3278-000-01
		63			20										XEBI3278-001-01
	CCE	80	7W	P10	WITHOUT ORIFICE IN ANY PORT										XEBI3279-000-01
		80			25										XEBI3279-001-01
	CCE	100	7W	P10	WITHOUT ORIFICE IN ANY PORT										XEBI3280-000-01
		100			30										XEBI3280-001-01
					DZ1: No Port										

* For other orifice configuration, see order sample on page 34.

Type IWDB/DM (only in combination with CKE cartridges)

Symbol	Type	Size	Style	Pilot Valve	Description										Part #
					Orifice Configuration (Port/Size) *										
					P	A	B	T	C	X	Z1	Z2	Y	AP	
	CCE	16	IWDB/DM	P06	WITHOUT ORIFICE IN ANY PORT										XEB1639-000-01
		16			10										XEB1639-001-01
		25			WITHOUT ORIFICE IN ANY PORT										XEB16042-000-01
		25			12										XEB16042-001-01
		32			WITHOUT ORIFICE IN ANY PORT										XEB16102-000-01
		32			12										XEB16102-001-01
		40			WITHOUT ORIFICE IN ANY PORT										XEB13491-000-01
		40			15										XEB13491-001-01

* For other orifice configuration, see order sample on page 34.

Standard Models

Type RV

Symbol	Type	Size	Style	Description										Part #
				Orifice Configuration (Port/Size) *										
				P	A	B	T	C	X	Z1	Z2	Y	OTHER	
	CCE	16	RV	WITHOUT ORIFICE IN ANY PORT										XEBI1784-000-01
		16					10	10		10				XEBI1784-004-01
	CCE	25	RV	WITHOUT ORIFICE IN ANY PORT										XEBI1809-000-01
		25					10	12		12				EBI1809-002-01
	CCE	32	RV	WITHOUT ORIFICE IN ANY PORT										XEBI1835-000-01
		32					12	15		12				XEBI1835-002-01
	CCE	40	RV	WITHOUT ORIFICE IN ANY PORT										XEBI1861-000-01
		40					12	15		12				XEBI1861-002-01
	CCE	50	RV	WITHOUT ORIFICE IN ANY PORT										XEBI1887-000-01
		50					12	15		12				XEBI1887-001-01
	CCE	63	RV	WITHOUT ORIFICE IN ANY PORT										XEBI1913-000-01
		63					15	20		15				XEBI1913-001-01
	CCE	80	RV	WITHOUT ORIFICE IN ANY PORT										XEBI1939-000-01
		80					25	30		25				XEBI1939-001-01
	CCE	100	RV	WITHOUT ORIFICE IN ANY PORT										XEBI1965-000-01
		100					25	30		25				XEBI1965-001-01

* For other orifice configuration, see order sample on page 34.

Ratio of opening pressure = 1:5,4

Orifice Port Thread and Part Number Tables

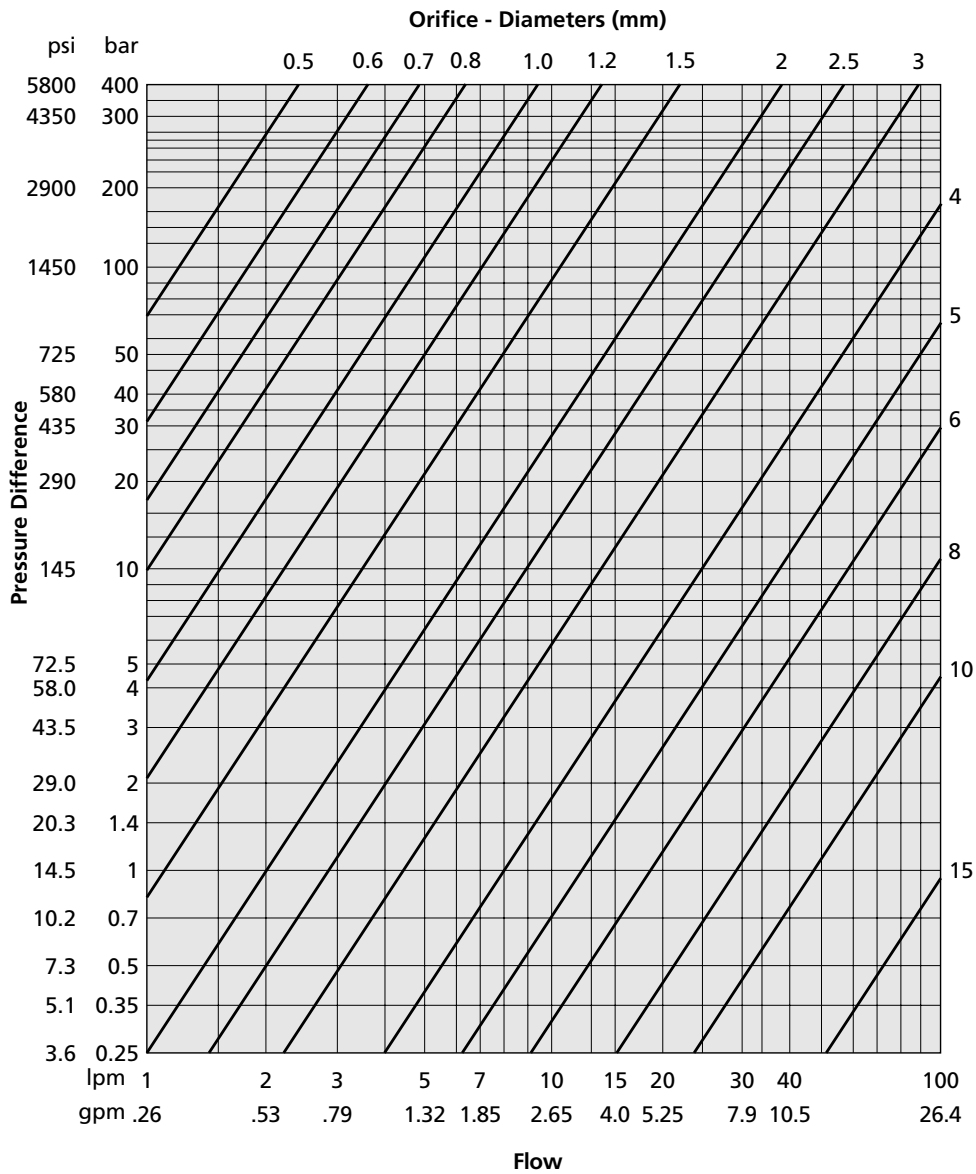
SIZE	ORIFICE PORT THREAD SIZE TABLE									
	P	A	B	T	C	X	Z1	Z2	Y	AP
16	M6	M6	M6	M6	M5	M5	M5	M5	M5	M5
25	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6
32	M6	M6	M6	M6	M6	M6	M6	M6	M6	M6
40	M6	M6	M6	M6	M8	M8	M8	M8	M8	M8
50	M6	M6	M6	M6	M8	M8	M8	M8	M8	M8
63	M10	M10	M10	M10	M10	M10	M10	M10	M10	M10
80	M10	M10	M10	M10	M14	M14	M14	M14	M14	M14
100	M10	M10	M10	M10	M16	M16	M16	M16	M16	M16

STANDARD ORIFICE PART NUMBERS			
ORIFICE SIZE	PART NUMBER	ORIFICE SIZE	PART NUMBER
M5 x 5 x 0.0	X784-90500	M10 x 10 x 0.0	X784-91000
M5 x 5 x 0.6	X784-90506	M10 x 10 x 0.8	X784-91008
M5 x 5 x 0.8	X784-90508	M10 x 10 x 1.0	X784-91010
M5 x 5 x 1.0	X784-90510	M10 x 10 x 1.2	X784-91012
M5 x 5 x 1.2	X784-90512	M10 x 10 x 1.5	X784-91015
M5 x 5 x 1.5	X784-90515	M10 x 10 x 1.8	X784-91018
M5 x 5 x 1.8	X784-90518	M10 x 10 x 2.0	X784-91020
M5 x 5 x 2.0	X784-90520	M10 x 10 x 2.5	X784-91025
		M10 x 10 x 3.0	X784-91030
M6 x 6 x 0.0	X784-90600	M10 x 10 x 3.5	X784-91035
M6 x 6 x 0.6	X784-90606	M10 x 10 x 4.0	X784-91040
M6 x 6 x 0.8	X784-90608	M10 x 10 x 4.5	X784-91045
M6 x 6 x 1.0	X784-90610	M10 x 10 x 5.0	X784-91050
M6 x 6 x 1.2	X784-90612	M10 x 10 x 5.5	X784-91055
M6 x 6 x 1.5	X784-90615		
M6 x 6 x 1.8	X784-90618	M14 x 14 x 0.0	X784-91400
M6 x 6 x 2.0	X784-90620	M14 x 14 x 1.5	X784-91415
M6 x 6 x 2.5	X784-90625	M14 x 14 x 2.0	X784-91420
M6 x 6 x 3.0	X784-90630	M14 x 14 x 2.5	X784-91425
M6 x 6 x 3.5	X784-90635	M14 x 14 x 3.0	X784-91430
		M14 x 14 x 3.5	X784-91435
M8 x 8 x 0.0	X784-90800	M14 x 14 x 4.0	X784-91440
M8 x 8 x 0.6	X784-90806	M14 x 14 x 6.0	X784-91460
M8 x 8 x 0.8	X784-90808		
M8 x 8 x 1.0	X784-90810	M16 x 16 x 0.0	X784-91600
M8 x 8 x 1.2	X784-90812	M16 x 16 x 1.5	X784-91615
M8 x 8 x 1.5	X784-90815	M16 x 16 x 2.5	X784-91625
M8 x 8 x 1.8	X784-90818	M16 x 16 x 3.0	X784-91630
M8 x 8 x 2.0	X784-90820	M16 x 16 x 4.0	X784-91640
M8 x 8 x 2.5	X784-90825	M16 x 16 x 6.0	X784-91660
M8 x 8 x 3.0	X784-90830		
M8 x 8 x 3.5	X784-90835		
M8 x 8 x 4.0	X784-90840		
M8 x 8 x 4.5	X784-90845		

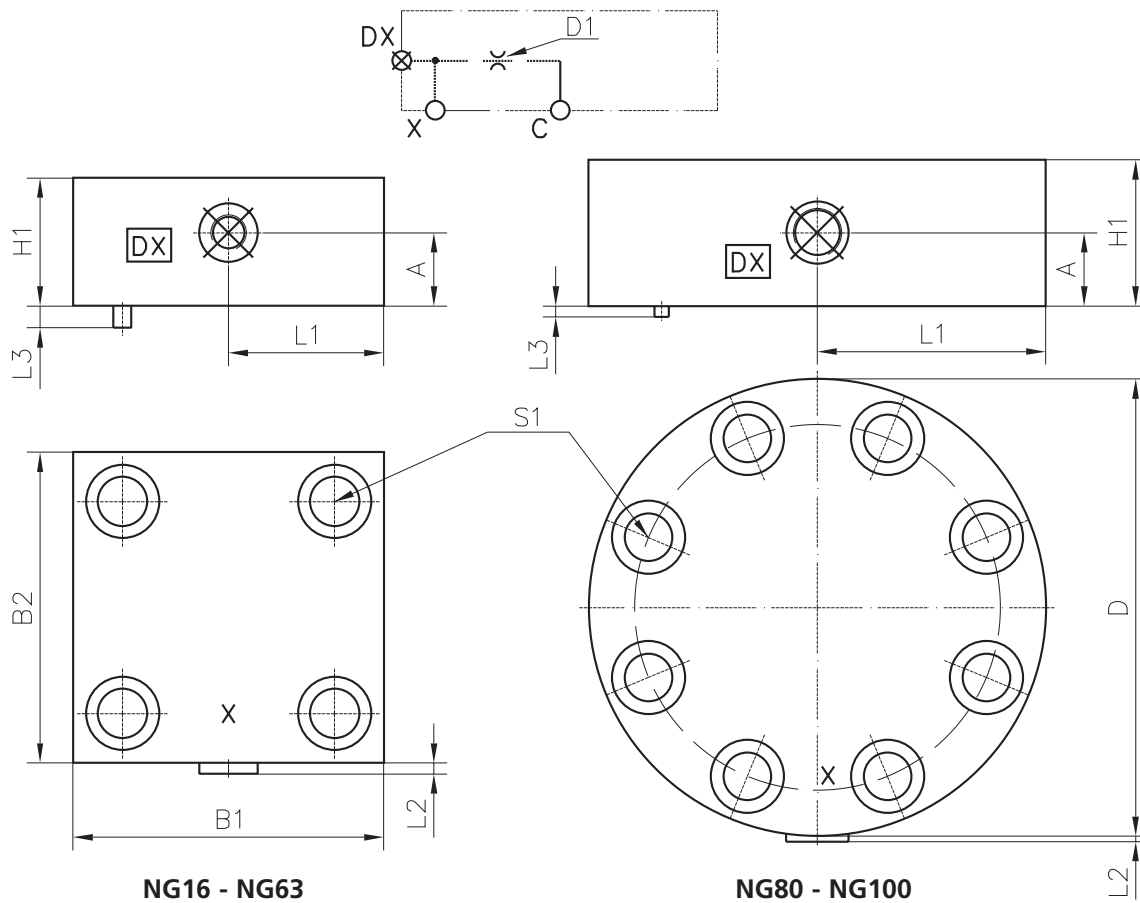
Typical Orifice Characteristics

The function and switching velocity of a cartridge-valve can be influenced by changes in the metering-in and metering-out flow through the pilot lines. This is achieved by changing mounting orifices as required.

The following diagram and table should be used for selecting the correct orifice diameter.



Viscosity : 35 mm² · s⁻¹ [cSt]
 Oil temperature : 122°F [50°C]

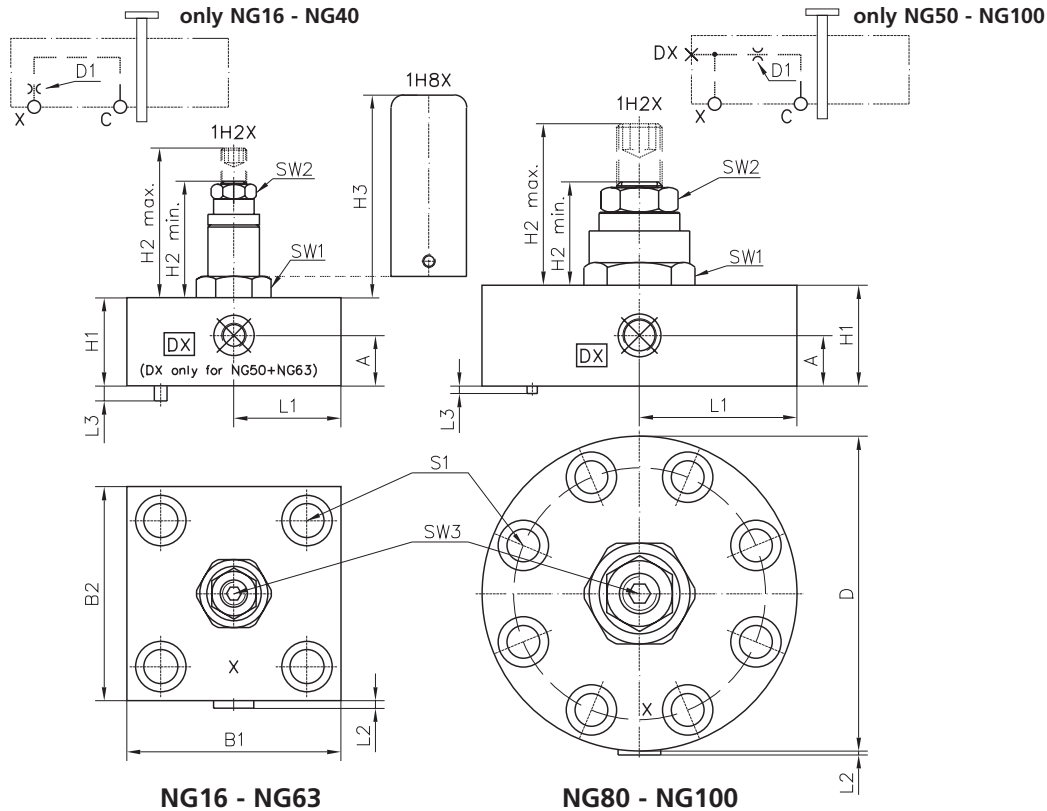


DIMENSIONS Cover ID - in [mm]								
DIMN	SIZE							
	NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
B1	2.56 [65]	3.36 [85]	4.01 [102]	4.92 [125]	5.51 [140]	7.09 [180]	-	-
B2	2.56 [65]	3.36 [85]	4.01 [102]	4.92 [125]	5.51 [140]	7.09 [180]	-	-
D	-	-	-	-	-	-	9.84 [250]	11.81 [300]
H1	1.38 [35]	1.38 [35]	1.77 [45]	2.36 [60]	2.36 [60]	3.15 [80]	3.15 [80]	3.94 [100]
L1	1.28 [32.5]	1.67 [42.5]	2.00 [51]	2.46 [62.5]	2.76 [70]	3.54 [90]	4.92 [125]	5.90 [150]
L2	.12 [3]	.12 [3]	.16 [4]	.16 [4]	.16 [4]	.16 [4]	.12 [3]	.20 [5]
L3	.16 [4]	.24 [6]	.24 [6]	.24 [6]	.24 [6]	.31 [8]	.24 [6]	.16 [4]
S1* - UNC DIN EN ISO 4762 - 12.9	5/16"-18 1 3/8" lg	1/2"-13 1 5/8" lg	5/8"-11 2" lg	3/4"-10 2 7/8"-9	7/8"-9 2 7/8"-9	1 1/4"-7 1 1/4"-7	1"-8 1"-8	1 1/4"-7 1 1/4"-7
S1* - METRIC DIN EN ISO 4762 - 12.9	4x M8x35	4x M12x40	4x M16x50	4x M20x70	4x M20x70	4x M30x90	8x M24x90	8x M30x100
Tightening-Torque lb-ft [Nm]	22 [30]	74 [100]	221 [300]	406 [550]	406 [550]	1328 [1800]	664 [900]	1328 [1800]
Port DX	G 1/8"	G 1/8"	G 1/4"	G 1/2"	G 1/2"	G 3/4"	G 3/4"	G 1"
A	.67 [17]	.79 [20]	.98 [25]	1.38 [35]	1.38 [35]	1.77 [45]	1.57 [40]	1.97 [50]
DI**	M5	M6	M6	M8	M8	M10	M14	M16

* are not part of the delivery

** for the orifice part numbers see on page 21

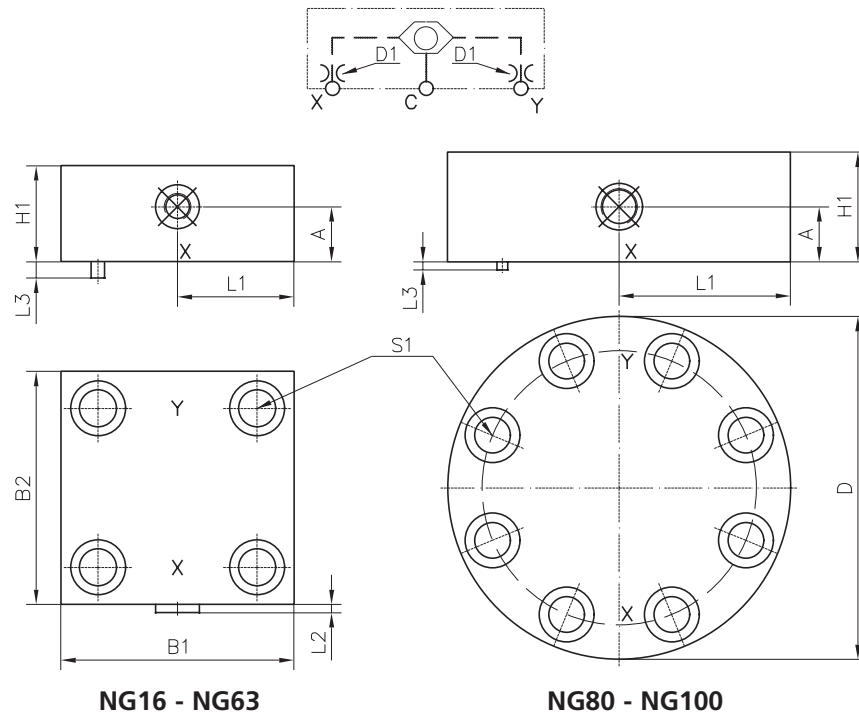
Dimensions



DIMENSIONS Cover 1H - in [mm]								
DIMN	SIZE							
	NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
B1	2.56 [65]	3.36 [85]	4.01 [102]	4.92 [125]	5.51 [140]	7.09 [180]	-	-
B2	2.56 [65]	3.36 [85]	4.01 [102]	4.92 [125]	5.51 [140]	7.09 [180]	-	-
D	-	-	-	-	-	-	9.84 [250]	11.81 [300]
H1	1.38 [35]	1.38 [35]	1.77 [45]	2.36 [60]	2.36 [60]	3.15 [80]	3.15 [80]	3.94 [100]
H2 min.	2.36 [60]	2.36 [60]	1.85 [47]	1.81 [46]	2.24 [57]	3.39 [86]	4.13 [105]	5.08 [129]
H2 max.	2.76 [70]	2.76 [70]	2.48 [63]	2.56 [65]	3.31 [84]	4.72 [120]	5.24 [133]	6.57 [167]
H3	3.23 [82]	3.23 [82]	3.15 [80]	3.15 [80]	3.35 [85]	5.24 [133]	--	--
L1	1.28 [32.5]	1.67 [42.5]	2.01 [51]	2.46 [62.5]	2.76 [70]	3.54 [90]	4.92 [125]	5.9 [150]
L2	.12 [3]	--	--	--	--	--	--	--
L3	.16 [4]	.24 [6]	.24 [6]	.24 [6]	.24 [6]	.31 [8]	.24 [6]	.16 [4]
SI* UNC DIN EN ISO 4762 - 12.9	5/16"-18 1 3/8" lg	1/2"-13 1 5/8" lg	5/8"-11 2" lg	3/4"-10 2 7/8"-9	7/8"-9 2 7/8"-9	1 1/4"-7 1 1/4"-7	1"-8 1"-8	1 1/4"-7 1 1/4"-7
SI* METRIC DIN EN ISO 4762 - 12.9	4x M8x35	4x M12x40	4x M16x50	4x M20x70	4x M20x70	4x M30x90	8x M24x90	8x M30x100
Tightening- Torque lb-ft [Nm]	22 [30]	74 [100]	221 [300]	406 [550]	406 [550]	1328 [1800]	664 [900]	1328 [1800]
SW1	.75 [19]	.75 [19]	.94 [24]	.94 [24]	.94 [24]	1.81 [46]	2.17 [55]	2.56 [65]
SW2	1.26 [32]	1.26 [32]	1.42 [36]	1.42 [36]	1.81 [46]	2.56 [65]	3.15 [80]	3.35 [85]
SW3(DIN 475)	.24 [6]	.24 [6]	.39 [10]	.39 [10]	.24 [6]	.67 [17]	.75 [19]	1.06 [27]
A	.67 [17]	.47 [12]	.51 [13]	.59 [15]	.83 [21]	1.06 [27]	.79 [20]	1.00 [25.5]
DI**	M5	M6	M6	M8	M8	M10	M14	M16

* are not part of the delivery

** for the orifice part numbers see on page 21

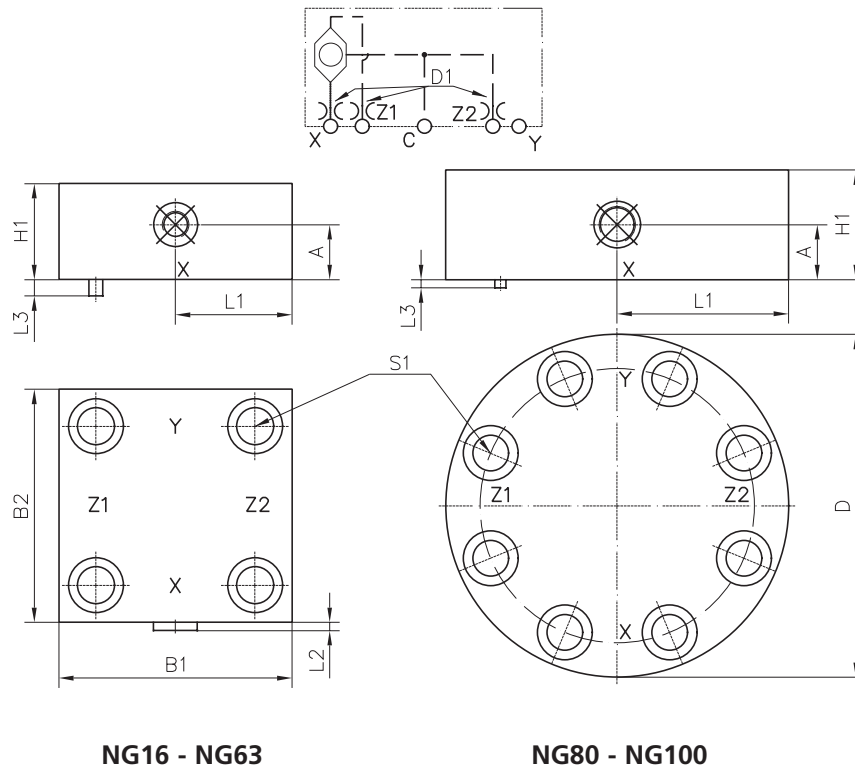


DIMENSIONS Cover 2D - in [mm]								
DIMN	SIZE							
	NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
B1	2.65 [65]	3.47 [85]	4.01 [102]	4.92 [125]	5.51 [140]	7.09 [180]	-	-
B2	2.65 [65]	3.47 [85]	4.01 [102]	4.92 [125]	5.51 [140]	7.09 [180]	-	-
D	-	-	-	-	-	-	9.84 [250]	11.81 [300]
H1	1.38 [35]	1.38 [35]	1.77 [45]	2.36 [60]	2.36 [60]	3.15 [80]	3.15 [80]	3.94 [100]
L1	1.33 [32.5]	1.73 [42.5]	2.08 [51]	2.55 [62.5]	3.46 [88]	3.54 [90]	5.10 [125]	6.12 [150]
L2	0.18 [4.5]	.04 [1]	--	--	--	--	--	--
L3	.20 [5]	.24 [6]	.24 [6]	.24 [6]	.24 [6]	.31 [8]	.16 [4]	.16 [4]
SI* UNC DIN EN ISO 4762 - 12.9	5/16"-18 1 3/8" lg	1/2"-13 1 5/8" lg	5/8"-11 2" lg	3/4"-10 2 7/8"-9	7/8"-9 2 7/8"-9	1 1/4"-7 1 1/4"-7	1"-8 1"-8	1 1/4"-7 1 1/4"-7
SI* METRIC DIN EN ISO 4762 - 12.9	4x M8x35	4x M12x40	4x M16x50	4x M20x70	4x M20x70	4x M30x90	8x M24x90	8x M30x100
Tightening- Torque lb-ft [Nm]	22 [30]	74 [100]	210 [300]	406 [550]	406 [550]	1328 [1800]	664 [900]	1328 [1800]
A	.85 [21.5]	.85 [21.5]	1.24 [31.5]	1.77 [45]	1.75 [44.5]	2.48 [63]	1.77 [45]	1.85 [47]
DI**	M5	M6	M6	M8	M8	M10	M14	M16

* are not part of the delivery

** for the orifice part numbers see on page 21

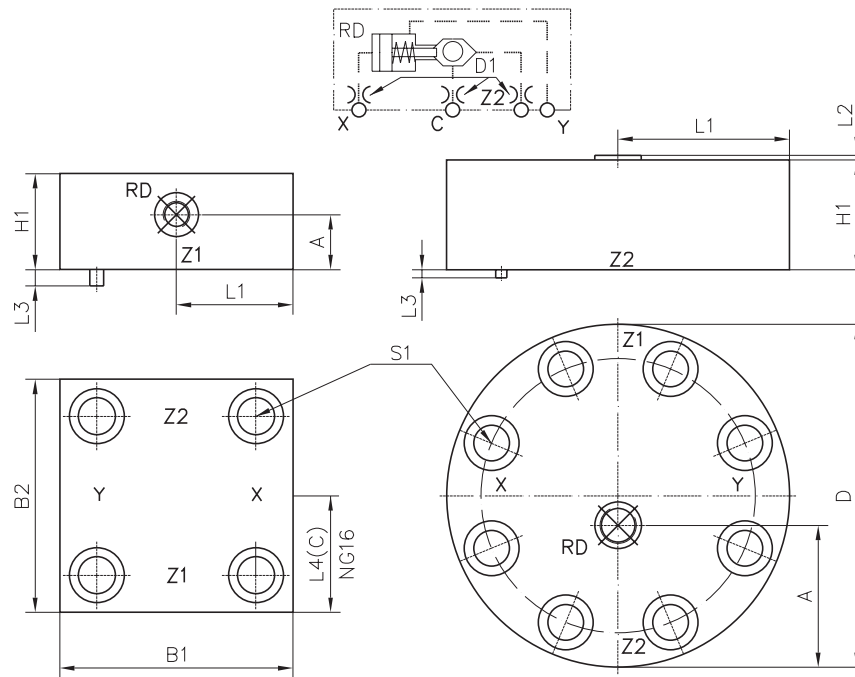
Dimensions



DIMENSIONS Cover 2DR - in [mm]								
DIMN	SIZE							
	NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
B1	2.65 [65]	3.47 [85]	4.01 [102]	4.92 [125]	5.51 [140]	7.09 [180]	-	-
B2	2.65 [65]	3.47 [85]	4.01 [102]	4.92 [125]	5.51 [140]	7.09 [180]	-	-
D	-	-	-	-	-	-	9.84 [250]	11.81 [300]
H1	1.38 [35]	1.38 [35]	1.77 [45]	2.36 [60]	2.36 [60]	3.15 [80]	3.15 [80]	3.94 [100]
L1	1.33 [32.5]	1.73 [42.5]	2.08 [51]	2.55 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
L2	.20 [5]	.20 [5]	.04 [1]	.04 [1]	.04 [1]	--	--	--
L3	.20 [5]	.24 [6]	.24 [6]	.24 [6]	.31 [8]	.31 [8]	.16 [4]	.16 [4]
SI* UNC DIN EN ISO 4762 - 12.9	5/16"-18 1 3/8" lg	1/2"-13 1 5/8" lg	5/8"-11 2" lg	3/4"-10 2 7/8"-9	7/8"-9 2 7/8"-9	1 1/4"-7 1 1/4"-7	1"-8 1"-8	1 1/4"-7 1 1/4"-7
SI* METRIC DIN EN ISO 4762 - 12.9	4x M8x35	4x M12x30	4x M16x40	4x M20x60	4x M20x60	4x M30x90	8x M24x90	8x M30x100
Tigting- Torque lb-ft [Nm]	22 [30]	74 [100]	210 [300]	406 [550]	406 [550]	1328 [1800]	664 [900]	1328 [1800]
A	.75 [19]	.75 [19]	1.06 [27]	1.38 [35]	1.38 [35]	1.97 [50]	2.05 [52]	2.05 [52]
D1**	M5	M6	M6	M8	M8	M10	M14	M16

* are not part of the delivery

** for the orifice part numbers see on page 21



NG16 - NG63

NG80 - NG100

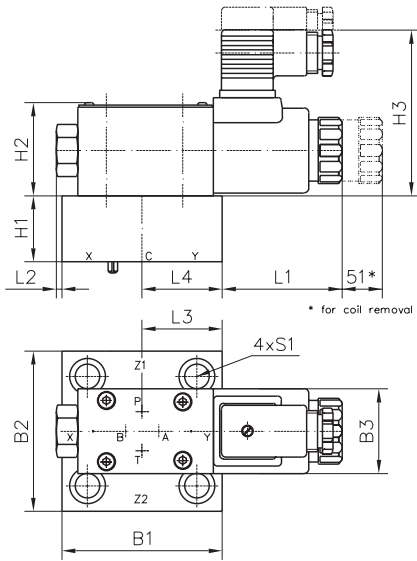
DIMENSIONS Cover R - in [mm]								
DIMN	SIZE							
	NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
B1	2.65 [65]	3.47 [85]	4.01 [102]	4.92 [125]	5.51 [140]	7.09 [180]	-	-
B2	3.47 [85]	3.47 [85]	4.01 [102]	4.92 [125]	5.51 [140]	7.09 [180]	-	-
D	-	-	-	-	-	-	9.84 [250]	11.81 [300]
H1	2.65 [65]	2.36 [60]	2.36 [60]	2.65 [65]	2.65 [65]	3.15 [80]	90	3.94 [100]
L1	1.33 [32.5]	1.73 [42.5]	2.08 [51]	2.55 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
L2	-	-	-	-	-	-	.16 [4]	-
L3	.20 [5]	.24 [6]	.24 [6]	.24 [6]	.31 [8]	.31 [8]	.16 [4]	.16 [4]
RD Location	over X	over Z1	over Z1	over Z1	over Z1	over Z1	-	-
L4(C)	1.33 [32.5]	-	-	-	-	-	-	-
SI* UNC DIN EN ISO 4762 - 12.9						1 1/4"-7 1 1/4"-7		
SI* METRIC DIN EN ISO 4762 - 12.9	4x M8x65	4x M8x65	4x M16x60	4x M20x70	4x M20x70	4x M30x90	8x M24x100	8x M30x110
Tightening- Torque lb-ft [Nm]	22 [30]	74 [100]	210 [300]	406 [550]	406 [550]	1328 [1800]	664 [900]	1328 [1800]
A	1.57 [40]	1.57 [40]	1.57 [40]	1.69 [43]	1.69 [43]	1.85 [47]	4.13 [105]	4.84 [123]
DI**	M5	M6	M6	M8	M8	M10	M14	M16

* are not part of the delivery

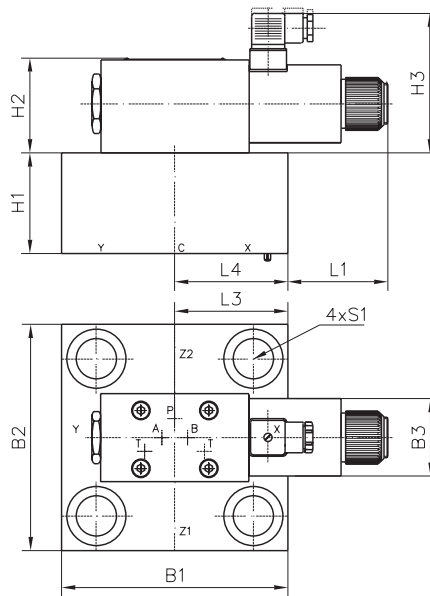
** for the orifice part numbers see on page 21

Dimensions

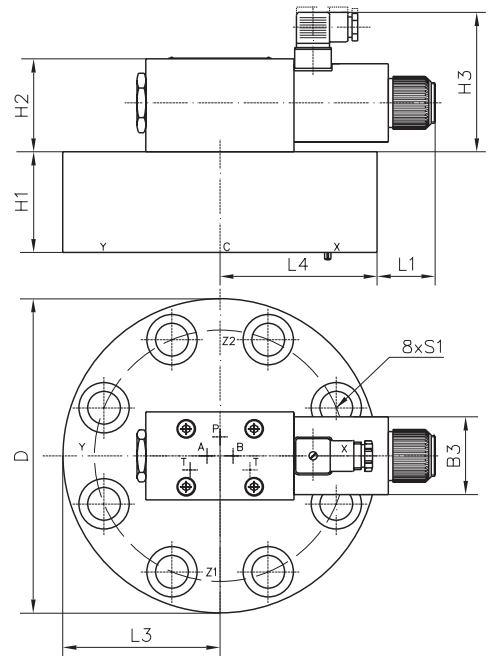
For the orifices location, see symbol pages 6-20.



NG16 - NG50



NG63



NG80 - NG100

DIMENSIONS COVERS - RM; 1W; 4D; 2W; 2WR; 4W; 5W; 7W; 1WDB u. 1WDB/DM - in [mm]

DIMN	Cover Version	SIZE							
		NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
H1	RM	1.38 [35]	1.38 [35]	1.77 [45]	2.36 [60]	2.36 [60]	3.15 [80]	3.15 [80]	3.54 [90]
	1W	1.32 [33.5]	1.38 [35]	1.77 [45]	2.36 [60]	2.36 [60]	3.15 [80]	3.15 [80]	3.94 [100]
	4D	1.38 [35]	1.38 [35]	1.97 [50]	2.36 [60]	2.36 [60]	3.15 [80]	3.15 [80]	3.54 [90]
	2W	1.97 [50]	1.97 [50]	2.36 [60]	2.36 [60]	2.36 [60]	3.15 [80]	3.54 [90]	3.94 [100]
	2WR	1.97 [50]	1.97 [50]	2.36 [60]	2.36 [60]	2.36 [60]	3.15 [80]	3.94 [100]	3.94 [100]
	4W	1.53 [39]	1.38 [35]	1.77 [45]	2.48 [63]	2.36 [60]	3.15 [80]	3.94 [100]	3.54 [90]
	5W	1.63 [40]	1.63 [40]	1.77 [45]	2.36 [60]	2.36 [60]	3.15 [80]	3.94 [100]	3.54 [90]
	7W	1.63 [40]	1.63 [40]	2.36 [60]	2.36 [60]	2.36 [60]	3.15 [80]	3.15 [80]	3.54 [90]
	1WDB	1.63 [40]	1.97 [50]	1.97 [50]	2.36 [60]	2.36 [60]	3.15 [80]	3.15 [80]	3.94 [100]
1WDB/DM	1.63 [40]	1.97 [50]	2.75 [70]	2.36 [60]	-	-	-	-	
H2	RM	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	2.95 [75] (3.23[82]≥NG06)	2.95 [75] (3.23[82]≥NG06)	2.95 [75]
	1W	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	2.95 [75] (3.23[82]≥NG06)	2.95 [75] (3.23[82]≥NG06)	2.95 [75]
	4D	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	2.95 [75] (3.23[82]≥NG06)	2.95 [75] (3.23[82]≥NG06)	2.95 [75]
	2W	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	2.95 [75] (3.23[82]≥NG06)	2.95 [75] (3.23[82]≥NG06)	2.95 [75]
	2WR	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	2.95 [75] (3.23[82]≥NG06)	2.95 [75] (3.23[82]≥NG06)	2.95 [75]
	4W	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	2.95 [75] (3.23[82]≥NG06)	2.95 [75] (3.23[82]≥NG06)	2.95 [75]
	5W	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	2.95 [75] (3.23[82]≥NG06)	2.95 [75] (3.23[82]≥NG06)	2.95 [75]
	7W	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	2.95 [75] (3.23[82]≥NG06)	2.95 [75] (3.23[82]≥NG06)	2.95 [75]
	1WDB	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	2.95 [75] (3.23[82]≥NG06)	2.95 [75] (3.23[82]≥NG06)	2.95 [75]
1WDB/DM	1.97 [50]	1.97 [50]	1.97 [50]	1.97 [50]	-	-	-	-	
H3	RM	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	4.37[111] (4.72[120]≥NG06)	4.37[111] (4.72[120]≥NG06)	4.37 [111]
	1W	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	4.37[111] (4.72[120]≥NG06)	4.37[111] (4.72[120]≥NG06)	4.37 [111]
	4D	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	4.37[111] (4.72[120]≥NG06)	4.37[111] (4.72[120]≥NG06)	4.37 [111]
	2W	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	4.37[111] (4.72[120]≥NG06)	4.37[111] (4.72[120]≥NG06)	4.37 [111]
	2WR	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	4.37[111] (4.72[120]≥NG06)	4.37[111] (4.72[120]≥NG06)	4.37 [111]
	4W	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	4.37[111] (4.72[120]≥NG06)	4.37[111] (4.72[120]≥NG06)	4.37 [111]
	5W	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	4.37[111] (4.72[120]≥NG06)	4.37[111] (4.72[120]≥NG06)	4.37 [111]
	7W	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	4.37[111] (4.72[120]≥NG06)	4.37[111] (4.72[120]≥NG06)	4.37 [111]
	1WDB	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	4.37[111] (4.72[120]≥NG06)	4.37[111] (4.72[120]≥NG06)	4.37 [111]
1WDB/DM	3.46 [88]	3.46 [88]	3.46 [88]	3.46 [88]	-	-	-	-	

continued on next page

Dimensions

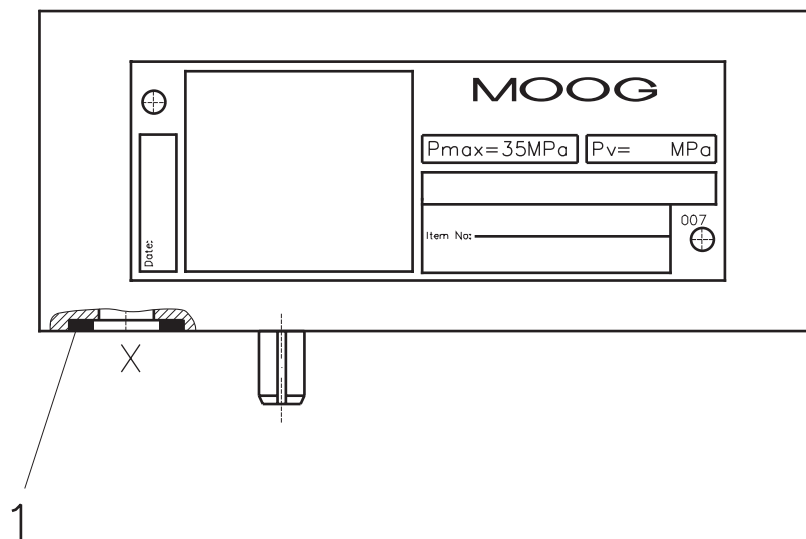
DIMENSIONS COVERS - RM; 1W; 4D; 2W; 2WR; 4W; 5W; 7W; 1WDB u. 1WDB/DM - in [mm]									
DIMN	Cover Version	SIZE							
		NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
L1	RM	2.32 [59]	2.52 [64]	2.20 [56]	1.73 [44]	1.42 [36]	3.15 [80] (0.79[20]≥NG06)	1.77 [45] (- ≥NG06)	0.79 [20]
	1W	2.32 [59]	2.52 [64]	2.20 [56]	1.73 [44]	1.42 [36]	3.15 [80] (0.79[20]≥NG06)	1.77 [45] (- ≥NG06)	0.79 [20]
	4D	2.32 [59]	2.52 [64]	2.20 [56]	1.73 [44]	1.42 [36]	3.15 [80] (0.79[20]≥NG06)	1.77 [45] (- ≥NG06)	0.79 [20]
	2W	2.32 [59]	2.52 [64]	2.20 [56]	1.73 [44]	1.42 [36]	3.15 [80] (0.79[20]≥NG06)	1.77 [45] (- ≥NG06)	0.79 [20]
	2WR	2.32 [59]	2.52 [64]	2.20 [56]	1.73 [44]	1.42 [36]	3.15 [80] (0.79[20]≥NG06)	1.77 [45] (- ≥NG06)	0.79 [20]
	4W	2.75 [70]	2.52 [64]	2.20 [56]	1.73 [44]	1.42 [36]	3.15 [80] (0.79[20]≥NG06)	1.77 [45] (- ≥NG06)	0.79 [20]
	5W	2.75 [70]	2.52 [64]	2.20 [56]	1.73 [44]	1.42 [36]	3.15 [80] (0.79[20]≥NG06)	1.77 [45] (- ≥NG06)	0.79 [20]
	7W	2.36 [60]	2.52 [64]	2.20 [56]	1.38 [35]	1.42 [36]	3.15 [80] (0.79[20]≥NG06)	1.77 [45] (- ≥NG06)	0.79 [20]
	1WDB	2.75 [70]	2.52 [64]	2.20 [56]	2.68 [68]	2.68 [68]	3.15 [80] (0.79[20]≥NG06)	1.77 [45] (- ≥NG06)	0.79 [20]
	1WDB/DM	2.75 [70]	2.52 [64]	2.20 [56]	2.68 [68]	-	-	-	
L2	RM	0.20 [5]	0.08 [2]	-	-	-	-	-	-
	1W	0.20 [5]	0.08 [2]	-	-	-	-	-	-
	4D	0.20 [5]	0.08 [2]	-	-	-	-	-	-
	2W	0.20 [5]	0.08 [2]	-	-	-	-	-	-
	2WR	0.20 [5]	0.08 [2]	-	-	-	-	-	-
	4W	0.20 [5]	0.08 [2]	-	-	-	-	-	-
	5W	0.20 [5]	0.08 [2]	-	-	-	-	-	-
	7W	0.20 [5]	0.08 [2]	-	-	-	-	-	-
		1WDB	-	0.08 [2]	-	-	-	-	-
	1WDB/DM	-	0.08 [2]	-	-	-	-	-	
L3 (P)	RM	1.28 [32.5]	1.67 [42.5]	2.04 [51]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
	1W	1.44 [36.5]	1.67 [42.5]	2.04 [51]	2.38 [60.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
	4D	1.28 [32.5]	1.67 [42.5]	2.04 [51]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
	2W	1.28 [32.5]	1.67 [42.5]	1.97 [50]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
	2WR	1.28 [32.5]	1.67 [42.5]	1.97 [50]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
	4W	1.44 [36.5]	1.67 [42.5]	2.04 [51]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
	5W	1.44 [36.5]	1.67 [42.5]	2.04 [51]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
	7W	1.28 [32.5]	1.67 [42.5]	2.04 [51]	2.79 [71]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
		1WDB	1.44 [36.5]	1.67 [42.5]	2.04 [51]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]
	1WDB/DM	1.44 [36.5]	1.67 [42.5]	2.40 [61]	2.46 [62.5]	-	-	-	
L4 (C)	RM	1.85 [47]	1.67 [42.5]	2.04 [51]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
	1W	1.89 [48]	1.67 [42.5]	2.04 [51]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
	4D	1.85 [47]	1.67 [42.5]	2.04 [51]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
	2W	1.85 [47]	1.67 [42.5]	1.97 [50]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
	2WR	1.85 [47]	1.67 [42.5]	1.97 [50]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
	4W	1.89 [48]	1.67 [42.5]	2.04 [51]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
	5W	1.89 [48]	1.67 [42.5]	2.04 [51]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
	7W	1.85 [47]	1.67 [42.5]	2.04 [51]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]	6.12 [150]
		1WDB	2.07 [52.5]	1.67 [42.5]	2.04 [51]	2.46 [62.5]	2.75 [70]	3.54 [90]	5.10 [125]
	1WDB/DM	2.07 [52.5]	1.67 [42.5]	2.04 [51]	2.46 [62.5]	-	-	-	
B1	all	3.35 [85]	3.35 [85]	4.01 [102]	4.92 [125]	5.51 [140]	7.09 [180]	-	-
B2	all	2.56 [65]	3.35 [85]	4.01 [102]	4.92 [125]	5.51 [140]	7.09 [180]	-	-
B3	all	1.77 [45]	1.77 [45]	1.77 [45]	1.77 [45]	1.77 [45]	2.44 [62] (1.77[45]≥NG06)	2.44 [62] (1.77[45]≥NG06)	2.44 [62]
D	all	-	-	-	-	-	-	9.84 [250]	11.81 [300]
S1* UNC** DIN EN ISO 4762 - 12.9	-	5/16" x 1.50" (rest)	1/2" x 1.50" (rest)	5/8" x 2.00" (rest)	3/4" x 2.75" (rest)	3/4" x 2.75" (rest)	1 1/4" x 3.50" (rest)	1" x 3.50" (rest)	1 1/4" x 3.50"
		5/16" x 2.00" (2W/2WR)	1/2" x 2.00" (1WDB)	5/8" x 2.25" (7W)	3/4" x 2.25" (5W/7W)	3/4" x 2.50" (2W/4W/5W/2WR)	1 1/4" x 3.25" (5W/7W/2WR)	1" x 4.00" (2W)	1 1/4" x 4.00"
		5/16" x 1.50" (7W)		3/4" x 2.25" (7W)	3/4" x 2.25" (7W)	1 1/4" x 4.00" (2W)	1" x 4.25" (4W)	1 1/4" x 4.25"	
S1* METRIC DIN EN ISO 4762 - 12.9	-	M8x35 (rest)	M12x40 (rest)	M16x50 (rest)	M20x70 (rest)	M20x70 (rest)	M30x90 (rest)	M24x90 (rest)	M30X90
		M8x50 (2W/2WR)	M12x50 (1WDB)	M16x60 (7W)	M20x60 (5W/7W)	M20x65 (2W/4W/5W/2WR)	M30x80 (5W/7W/2WR)	M24x100 (2W)	M30X100
		M8x40 (7W)		M20x60 (7W)	M20x60 (7W)	M30x100 (2W)	M24x110 (4W)	M30X110	
Tightening-Torque lb-ft [Nm]	all	22 [30]	74 [100]	210 [300]	406 [550]	406 [550]	1328 [1800]	664 [900]	1328 [1800]
Orifices		Orifice port thread + Orifice part numbers see page 21							

* are not part of the delivery

**UNC Screw length - See installation drawing

Spare Parts List

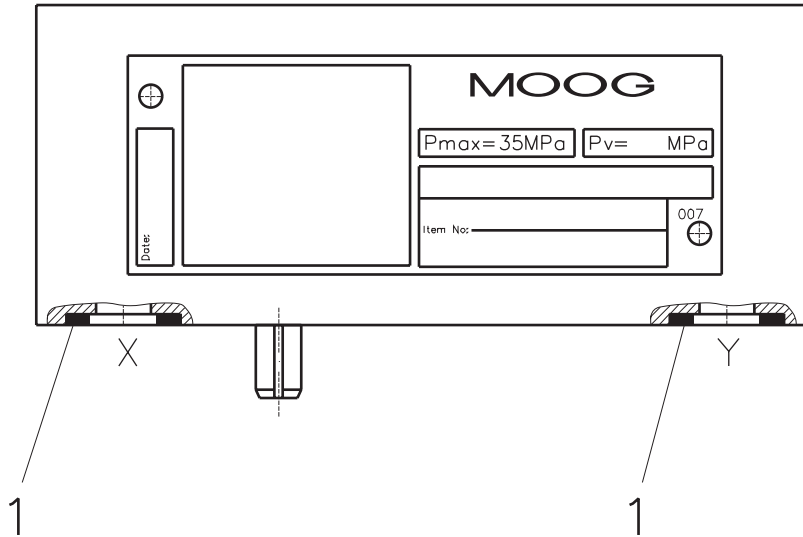
1D + 1H



SPARE PARTS LIST FOR COVERS: 1D + 1H										
POS.	DESCRIPTION	QTY	SIZE							
			NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
1	O-Ring Viton	1	X980-02010	X980-02012	X980-02013	X980-02112	X980-02112	X980-02116	X980-02215	X980-02220
1	PU Seal	1	XE15762	XE15498	XE14883	XE15199	XE15199	XE15163	XE15201	XE15222
-	Seal Kit 1D O-Ring Viton	1	XEB16270 -000-00	XEB13977 -000-00	XEB15514 -000-00	XEB14892 -000-00	XEB15154 -000-00	XEB17361 -000-00	XEB17362 -000-00	XEB17363 -000-00
-	Seal Kit 1D PU Seal	1	XEB17041 -000M00	XEB17042 -000M00	XEB17043 -000M00	XEB17044 -000M00	XEB17045 -000M00	XEB17046 -000M00	XEB17047 -000M00	XEB17048 -000M00
-	Seal Kit 1H O-Ring Viton	1	XEB15236 -000-00	XEB14771 -000-00	XEB14795 -000-00	XEB14364 -000-00	XEB14937 -000-00	XEB14297 -000-00	XEB17375 -000-00	XEB17376 -000-00
-	Seal Kit 1H PU Seal	1	XEB17057 -000M00	XEB17058 -000M00	XEB17059 -000M00	XEB17060 -000M00	XEB17061 -000M00	XEB17062 -000M00	XEB17063 -000M00	XEB17064 -000M00

Order example: Seal Kit 1H PU Seal NG50 => Order number: XEB17054-000M00

2D + RM



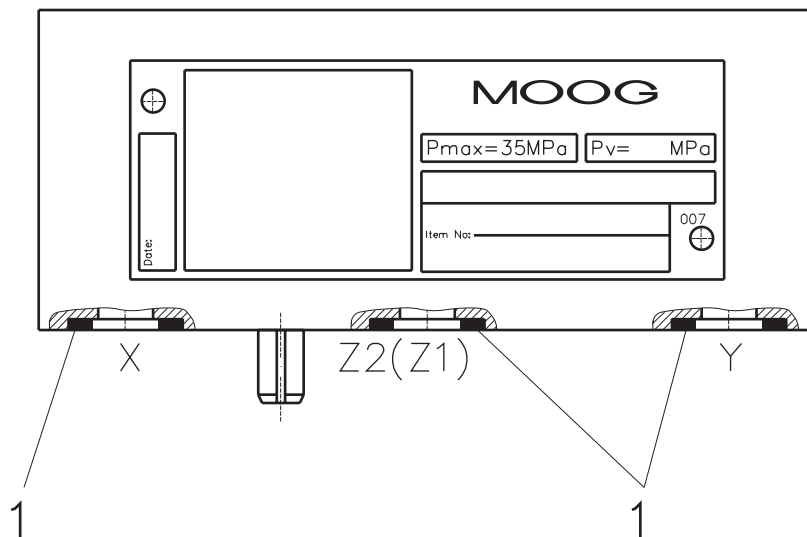
SPARE PARTS LIST FOR COVERS: 2D + RM

POS.	DESCRIPTION	QTY	SIZE							
			NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
I	O-Ring Viton	2	X980-02010	X980-02012	X980-02013	X980-02112	X980-02112	X980-02116	X980-02215	X980-02220
I	PU Seal	2	XEI5762	XEI5498	XEI4883	XEI5199	XEI5199	XEI5163	XEI5201	XEI5222
-	Seal Kit 2D O-Ring Viton	I	XEB16271 -000-00	XEB16266 -000-00	XEB13985 -000-00	XEB13986 -000-00	XEB17367 -000-00	XEB17368 -000-00	XEB17369 -000-00	XEB17370 -000-00
-	Seal Kit 2D PU Seal	I	XEB17049 -000M00	XEB17050 -000M00	XEB17051 -000M00	XEB17052 -000M00	XEB17053 -000M00	XEB17054 -000M00	XEB17055 -000M00	XEB17056 -000M00
-	Seal Kit RM O-Ring Viton	I	XEB15481 -000-00	XEB14000 -000-00	XEB16621 -000-00	XEB15485 -000-00	XEB14799 -000-00	XEB14765 -000-00	XEB16619 -000-00	XEB14679 -000-00
-	Seal Kit RM PU Seal	I	XEB17089 -000M00	XEB17090 -000M00	XEB17091 -000M00	XEB17092 -000M00	XEB17093 -000M00	XEB17094 -000M00	XEB17095 -000M00	XEB17096 -000M00

Order example: Seal Kit RM PU Seal NG63 => Order number: XEB17094-000M00

Spare Parts List

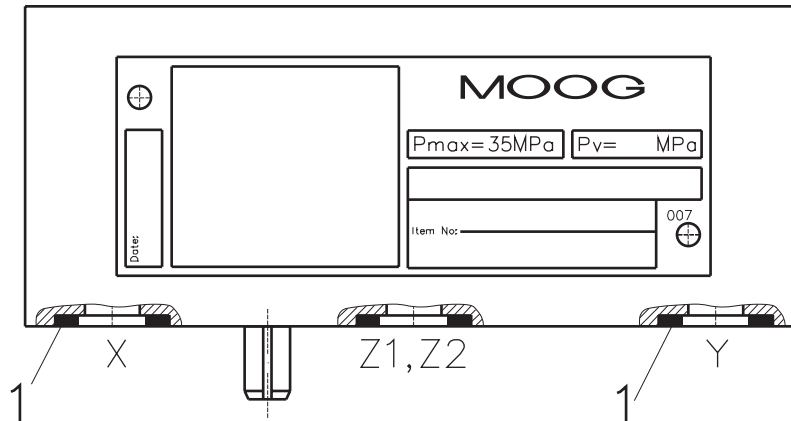
2DR, 4D + RV



SPARE PARTS LIST FOR COVERS: 2DR, 4D + RV										
POS.	DESCRIPTION	QTY	SIZE							
			NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
I	O-Ring Viton	3	X980-02010	X980-02012	X980-02013	X980-02112	X980-02112	X980-02116	X980-02215	X980-02220
I	PU Seal	3	XE15762	XE15498	XE14883	XE15199	XE15199	XE15163	XE15201	XE15222
-	Seal Kit 2DR O-Ring Viton	I	XEB17396 -000-00	XEB16337 -000-00	XEB17397 -000-00	XEB17398 -000-00	XEB17399 -000-00	XEB17400 -000-00	XEB17448 -000-00	XEB17449 -000-00
-	Seal Kit 2DR PU Seal	I	XEB17401 -000M00	XEB17402 -000M00	XEB17403 -000M00	XEB17404 -000M00	XEB17405 -000M00	XEB17406 -000M00	XEB17450 -000M00	XEB17451 -000M00
-	Seal Kit 4D O-Ring Viton	I	XEB17377 -000-00	XEB16647 -000-00	XEB17227 -000-00	XEB16605 -000-00	XEB17378 -000-00	XEB16648 -000-00	XEB17379 -000-00	XEB17380 -000-00
-	Seal Kit 4D PU Seal	I	XEB17097 -000M00	XEB17098 -000M00	XEB17099 -000M00	XEB17100 -000M00	XEB17101 -000M00	XEB17102 -000M00	XEB17103 -000M00	XEB17104 -000M00
-	Seal Kit RV O-Ring Viton	I	XEB17243 -000-00	XEB17244 -000-00	XEB17245 -000-00	XEB17246 -000-00	XEB17250 -000-00	XEB17251 -000-00	XEB17252 -000-00	XEB17253 -000-00
-	Seal Kit RV PU Seal	I	XEB17440 -000M00	XEB17441 -000M00	XEB17442 -000M00	XEB17443 -000M00	XEB17444 -000M00	XEB17445 -000M00	XEB17446 -000M00	XEB17447 -000M00

Order example: Seal Kit 4D PU Seal NG40 => Order number: XEB17100-000M00

2WR, 1WDB, 1WDB/DM, 1W, 2W, 4W, 5W + 7W

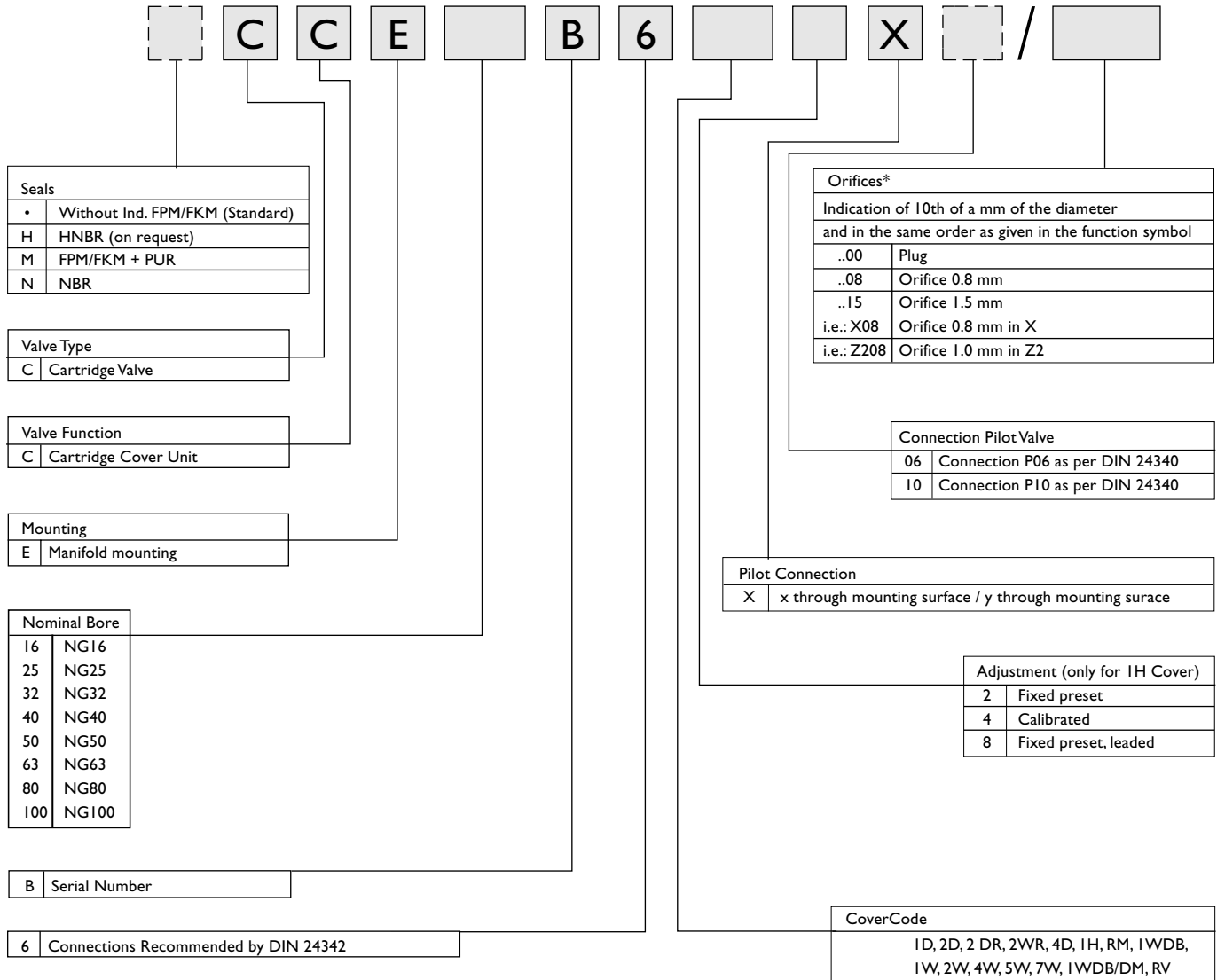


SPARE PARTS LIST FOR COVERS: 2WR, 1WDB, 1WDB/DM, 1W, 2W, 4W, 5W, 7W

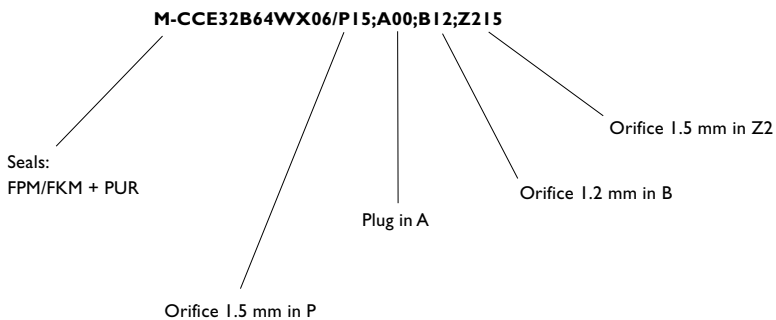
POS.	DESCRIPTION	QTY	SIZE							
			NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
	O-Ring Viton	4	X980-02010	X980-02012	X980-02013	X980-02112	X980-02112	X980-02116	X980-02215	X980-02220
	PU Seal	4	XEI5762	XEI5498	XEI4883	XEI5199	XEI5199	XEI5163	XEI5201	XEI5222
-	Seal Kit 2WR O-Ring Viton		XEB17407 -000-00	XEB15396 -000-00	XEB17408 -000-00	XEB17409 -000-00	XEB17410 -000-00	XEB17411 -000-00	XEB17452 -000-00	XEB17453 -000-00
-	Seal Kit 2WR PU Seal		XEB17412 -000M00	XEB17413 -000M00	XEB17414 -000M00	XEB17415 -000M00	XEB17416 -000M00	XEB17417 -000M00	XEB17454 -000M00	XEB17455 -000M00
-	Seal Kit 1WDB O-Ring Viton		XEB15378 -000-00	XEB13979 -000-00	XEB14798 -000-00	XEB13988 -000-00	XEB17383 -000-00	XEB14794 -000-00	XEB17384 -000-00	XEB17385 -000-00
-	Seal Kit 1WDB PU Seal		XEB17105 -000M00	XEB17106 -000M00	XEB17107 -000M00	XEB17108 -000M00	XEB17109 -000M00	XEB17110 -000M00	XEB17111 -000M00	XEB17112 -000M00
-	Kit 1WDB/DM O-Ring Viton		XEB17432 -000-00	XEB17433 -000-00	XEB17434 -000-00	XEB17435 -000-00	-	-	-	-
-	Kit 1WDB/DM PU Seal		XEB17436 -000M00	XEB17437 -000M00	XEB17438 -000M00	XEB17439 -000M00	-	-	-	-
-	Seal Kit 1W O-Ring Viton		XEB16335 -000-00	XEB13978 -000-00	XEB13984 -000-00	XEB14891 -000-00	XEB17228 -000-00	XEB16620 -000-00	XEB17381 -000-00	XEB17382 -000-00
-	Seal Kit 1W PU Seal		XEB17065 -000M00	XEB17066 -000M00	XEB17067 -000M00	XEB17068 -000M00	XEB17069 -000M00	XEB17070 -000M00	XEB17071 -000M00	XEB17072 -000M00
-	Seal Kit 2W O-Ring Viton		XEB16289 -000-00	XEB14762 -000-00	XEB16493 -000-00	XEB14793 -000-00	XEB14770 -000-00	XEB14767 -000-00	XEB17229 -000-00	XEB17386 -000-00
-	Seal Kit 2W PU Seal		XEB17081 -000M00	XEB17082 -000M00	XEB17083 -000M00	XEB17084 -000M00	XEB17085 -000M00	XEB17086 -000M00	XEB17087 -000M00	XEB17088 -000M00
-	Seal Kit 4W O-Ring Viton		XEB16553 -000-00	XEB17387 -000-00	XEB16494 -000-00	XEB14800 -000-00	XEB14769 -000-00	XEB16697 -000-00	XEB16302 -000-00	XEB17388 -000-00
-	Seal Kit 4W PU Seal		XEB17073 -000M00	XEB17074 -000M00	XEB17075 -000M00	XEB17076 -000M00	XEB17077 -000M00	XEB17078 -000M00	XEB17079 -000M00	XEB17080 -000M00
-	Seal Kit 5W O-Ring Viton		XEB17389 -000-00	XEB17390 -000-00	XEB17391 -000-00	XEB17392 -000-00	XEB16495 -000-00	XEB17393 -000-00	XEB17394 -000-00	XEB17395 -000-00
-	Seal Kit 5W PU Seal		XEB17113 -000M00	XEB17114 -000M00	XEB17115 -000M00	XEB17116 -000M00	XEB17117 -000M00	XEB17118 -000M00	XEB17119 -000M00	XEB17120 -000M00
-	Seal Kit 7W O-Ring Viton		XEB17418 -000-00	XEB17419 -000-00	XEB17420 -000-00	XEB17421 -000-00	XEB17422 -000-00	XEB16554 -000-00	XEB17423 -000-00	XEB17424 -000-00
-	Seal Kit 7W PU Seal		XEB17425 -000M00	XEB17426 -000M00	XEB17427 -000M00	XEB17428 -000M00	XEB17429 -000M00	XEB17256 -000M00	XEB17430 -000M00	XEB17437 -000M00

Order example: Seal Kit 4W PU Seal NG80 => Order number: XEB17079-000M00

Ordering Information



Order Example:



Subject to technical changes.



Argentina
Australia
Austria
Brazil
China
England
Finland
France
Germany



India
Ireland
Italy
Japan
Korea
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Norway
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