

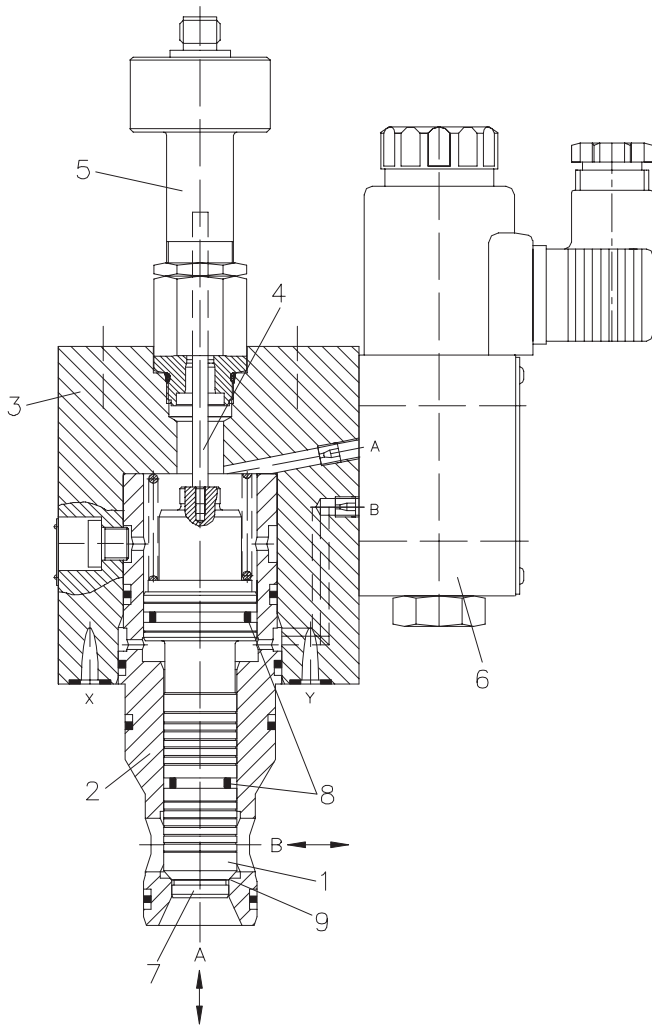
Position Monitored Active Cartridges
Series RSE/SI1
DIN 24342 or ISO 7368 Size 16 to 100



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General Description of Layout and Function



Position monitored active cartridge for manifold mounting

Ports A and B are either closed or fully open allowing bi-directional flow.

Valve description:

The valve comprises a sleeve (2), seated poppet (1) with integral tail rod (4), a non contacting position monitoring switch (5) and the valve body (3).

The seated poppet (1) can be controlled by an integral pilot valve (6) mounted on the valve body or externally pilot through the interface ports X and Y. Fast opening and closing times are achieved via the active pilot areas A_x and A_y . The position monitoring switch (5) is operated when the nose (7) of the poppet (1) enters the seat diameter on the sleeve (2) closing ports A and B. The poppet (1) then contacts the seat (9) fully blocking ports A and B.

Advantages:

- No dynamic sealing for position monitoring switch.
- Direct monitoring of the closed position.
- High cycle life.
- Zero leakage due to seals (8) and metal to metal seat (9) – (excluding pilot valve leakage).

Application examples:

- Presses.
- Injection moulding machines.
- Lifting equipment.
- Any application requiring position monitored cartridges.

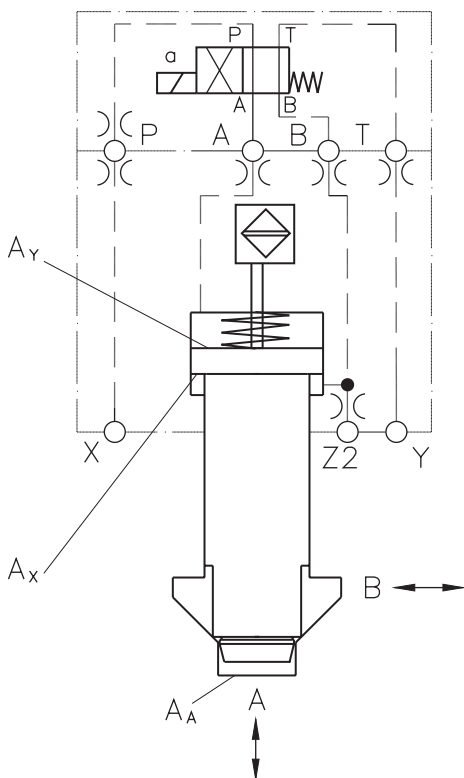
BG Approval certificate (see page 18):

- All valves up to NG100.
- Approval includes the NG06 adaptor plate for the WX3 version.
- For the WX1 and WX2 versions the approval is for the main valve only.

Warning:

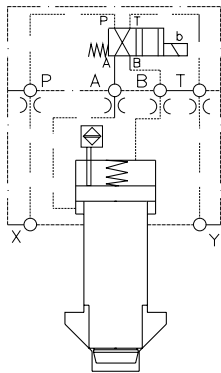
The approval applies to valves tested, set and sealed at Moog Hydrolux.

It is essential this setting is not modified or tampered with, if this should happen then the BG approval would be void.



Active opening with energised solenoid

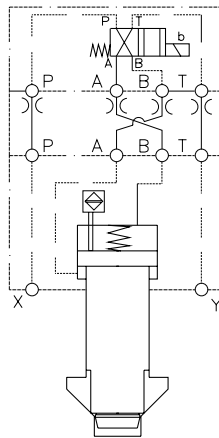
WX1-Version



only NG16

Active closing with energised solenoid

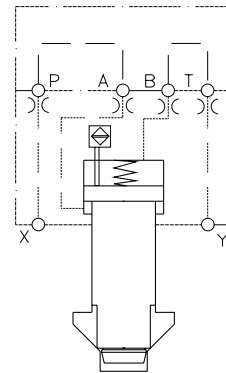
WX2-Version



only NG16

Externally pilot operated with a interconnecting plate

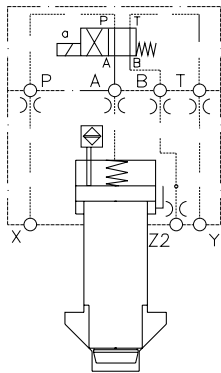
WX6-Version



only NG16

Active opening with energised solenoid and additional Z2-port

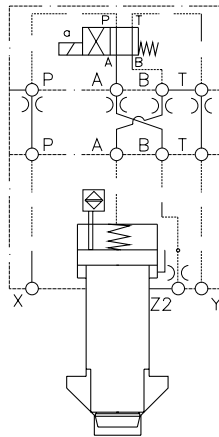
WX1-Version



NG25-NG50

Active closing with energised solenoid and additional Z2-port

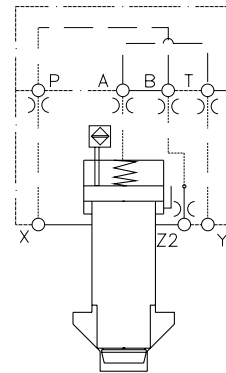
WX2-Version



NG25-NG50

Externally pilot operated with a interconnecting plate and additional Z2-port

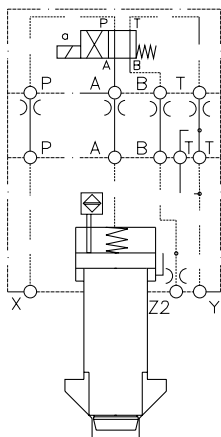
WX6-Version



NG25-NG50

Active opening with energised solenoid and additional Z2-port

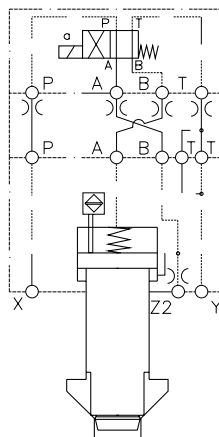
WX1-Version



only NG63

Active closing with energised solenoid and additional Z2-port

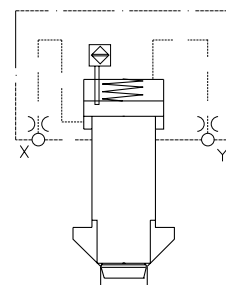
WX2-Version



only NG63

Externally pilot operated

WX3-Version

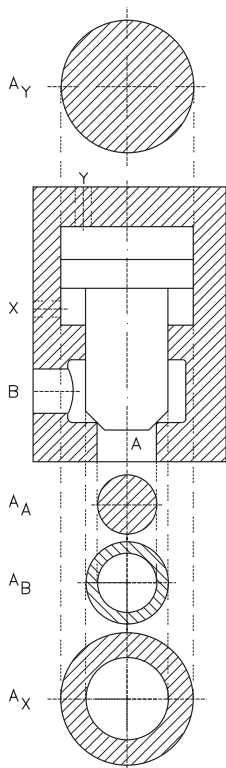


only NG80-NG100

Specifications

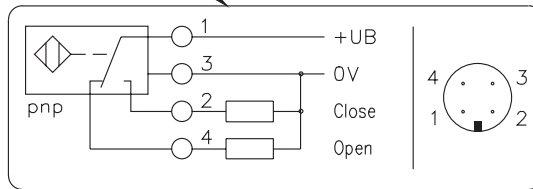
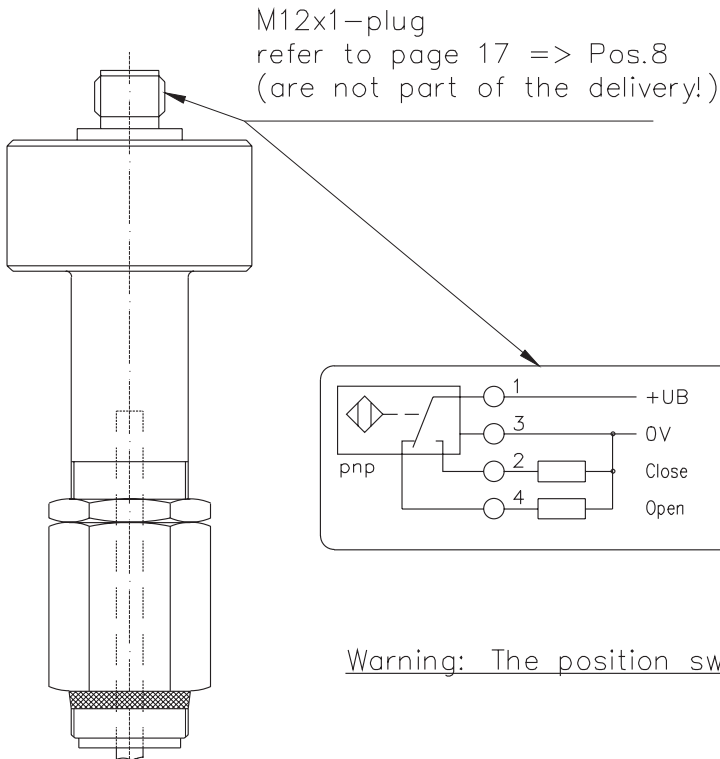
General Data	Value	Unit	Specifications
Designation	-	-	Position monitored active cartridge
Type designation	-	-	see ordering information page 16
Mode of construction	-	-	Pilot operated seat valve
Mounting style	-	-	Manifold mounting
Mounting dimensions	-	mm	see page 11
Mounting position	-	-	any
Flow direction	-	-	A <=> B
Ambient temperature range	min.	°C	-25
	max.	°C	+60
Working pressure			
A-port	min.	bar	0
B-port	max.	bar	350
X-port	min.	bar	0
Y-port	max.	bar	350 for WX3 - and WX6 version
Y-port	max.	bar	210 for WX1 - and WX2 version
Fluid temperature range	min.	°C	-25
	max.	°C	+80
Viscosity range	min.	mm ² • s ⁻¹ [cSt]	2,8
	max.	mm ² • s ⁻¹ [cSt]	380
Operational viscosity	v	mm ² • s ⁻¹ [cSt]	35
Nominal size	-	-	NG16 NG25 NG32 NG40 NG50 NG63 NG80 NG100
Pilot volume (Area A _Y)	V _Y	cm ³	3,4 10,0 19,8 46,3 92,4 178,3 288,6 505,3

Characteristics Parameters



Area ratio (Reference surface A _A)								
NG	16	25	32	40	50	63	80	100
Stroke [mm]	9	11	17,5	24	24	28	30	36,5
A _A [mm ²]	123	227	452	804	1590	2642	3848	5674
A _A	1	1	1	1	1	1	1	1
A _B	0,64	0,67	0,56	0,41	0,49	0,46	0,47	0,67
A _Y	3,1	4	2,5	2,4	2,42	2,41	2,5	2,44
A _X	1,45	2,33	0,94	1,03	0,93	0,95	0,99	0,77

Technical Dates of the Position Switch



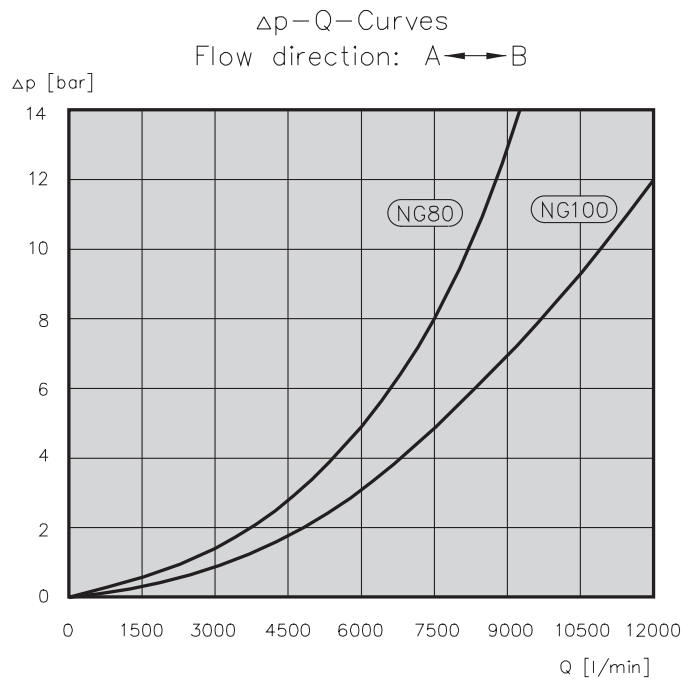
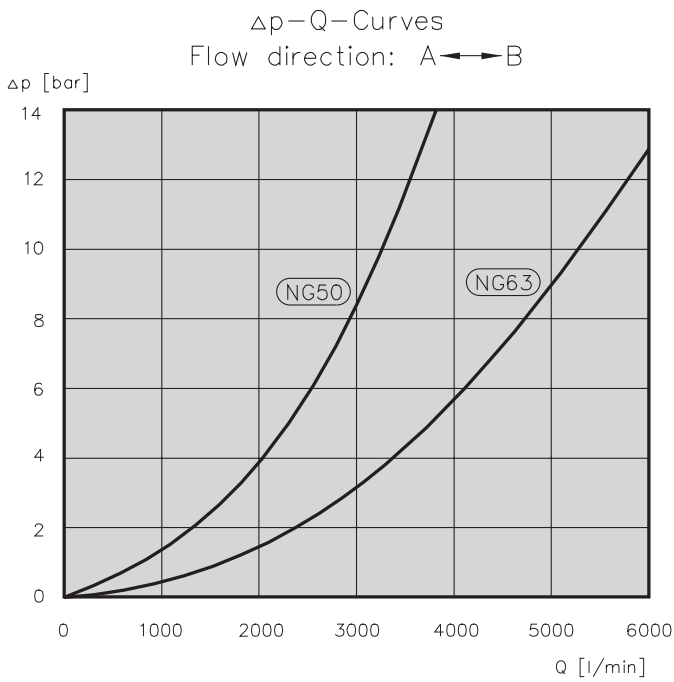
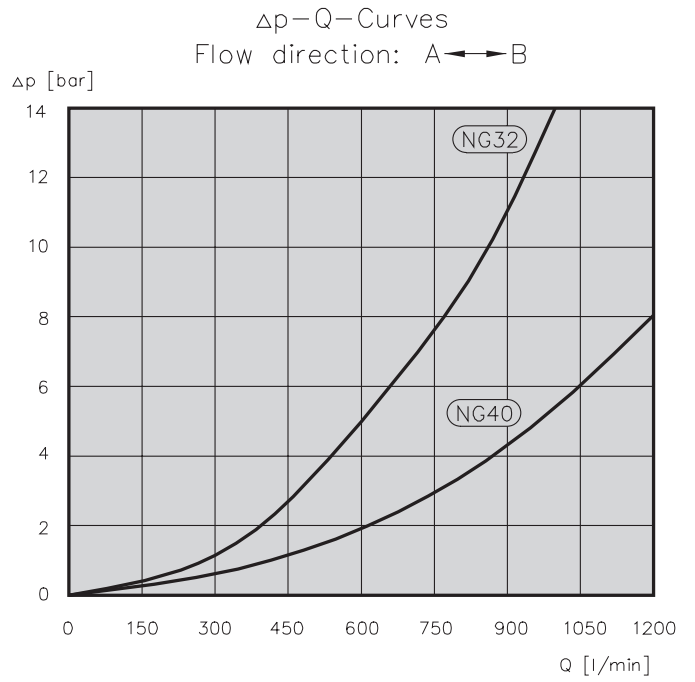
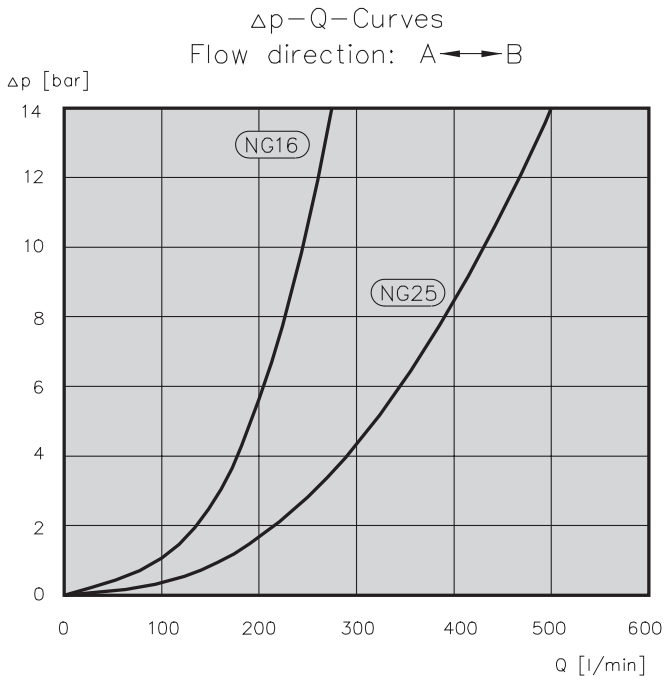
Contacts (Pins):

- 1: +24 V
- 2: Output close position
- 3: 0 V
- 4: Output open position

Warning: The position switch don't have an earth conductor !

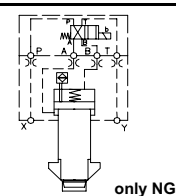
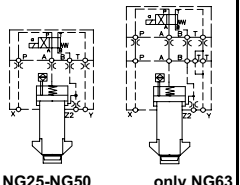

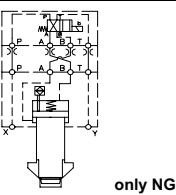
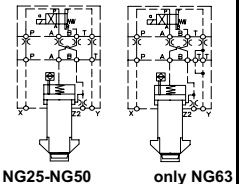

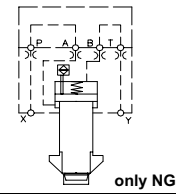
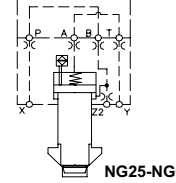
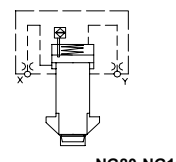
Technical Dates of the Position Switch	
Supply voltage UB Ripple	24 V ± 20 % = 10 %
max. output voltage	= UB – 2,5 V
Polarity reversal protection	max. 300 V
max. supply current (w/o output current)	20 mA
Switching point hysteresis	= 0,06 mm
Reproducibility of switching point at Tu = 20 °C	± 0,02 mm
Temperature drift	typ. 0,002 mm/°C (stat.)
max. output current	= 250 mA
Leckage current at low signal	< 10 µA
Outputs	high side, overload protected
Operating temperature	- 20 °C bis + 85 °C
Vibration-proof	Sinus, 20 g (5 min), 40...250 Hz (12 h),
Protection according to DIN 40050	IP 65 with mounted plug
Pressure strenght of tube	= 350 bar, schwellend / 5 Hz

Typical Characteristic Curves NG16 - NG100



Notes: active opening, viscosity 32 mm²/s and oil temperature 40° C

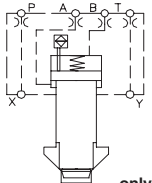
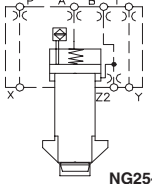
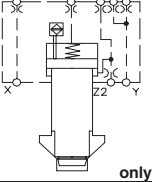
Standard Models for 24V =

Symbol	Function	Size NG	Weight [kg]	Part Designation	Part Number
 <p>only NG16</p>  <p>NG25-NG50 only NG63</p>	 <p>normally closed (WX1)</p>	16	6,0	RSE16FL6T1WX1BN/SI1	XEB18107-900-01
		25	8,5	RSE25FL6T2WX1BN/SI1;Z2	XEB18108-900-01
		32	11,0	RSE32FL6T3WX1BN/SI1;Z2	XEB18109-900-01
		40	18,0	RSE40FL6T4WX1BN/SI1;Z2	XEB18110-900-01
		50	28,0	RSE50FL6T5WX1BN/SI1;Z2	XEB18111-900-01
		63	53,0	RSE63FL6T6WX1BN/SI1;Z2;W106	XEB18112-900-01
 <p>only NG16</p>  <p>NG25-NG50 only NG63</p>	 <p>normally open (WX2)</p>	16	6,0	RSE16FL6T1WX2BN/SI1	XEB18113-900-01
		25	8,5	RSE25FL6T2WX2BN/SI1;Z2	XEB18114-900-01
		32	11,0	RSE32FL6T3WX2BN/SI1;Z2	XEB18115-900-01
		40	18,0	RSE40FL6T4WX2BN/SI1;Z2	XEB18116-900-01
		50	28,0	RSE50FL6T5WX2BN/SI1;Z2	XEB18117-900-01
		63	53,0	RSE63FL6T6WX2BN/SI1;Z2;W106	XEB18118-900-01
 <p>only NG16</p>  <p>NG25-NG63</p>	<p>externally piloted (WX6)</p>	16	5,5	RSE16BL6T1WX6/SI1	XEB16951-000-01
		25	8,0	RSE25BL6T2WX6/SI1;Z2	XEB17292-000-01
		32	10,5	RSE32BL6T3WX6/SI1;Z2	XEB16981-000-01
		40	17,5	RSE40BL6T4WX6/SI1;Z2	XEB17009-000-01
		50	27,5	RSE50BL6T5WX6/SI1;Z2	XEB17293-000-01
		63	51,5	RSE63BL6T6WX6/SI1;Z2	XEB16841-000-01
 <p>NG80-NG100</p>	<p>externally piloted (WX3)</p>	80	81,0	RSE80BT6T7WX3/SI1	XEB16842-000-01
		100	100,0	RSE100BT6T8WX3/SI1	XEB16355-000-01

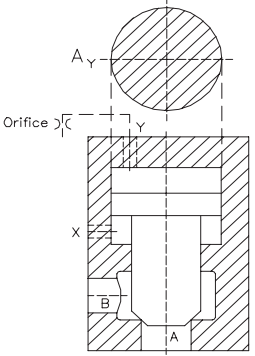


The part numbers of the WX1- and WX2 version have solenoids **with** manual emergency control !!
 The safety requirements, German version EN201 + EN698 for Injection moulding machines and presses, requires solenoids **without** manual emergency control !!
 => See ordering information on page 16 !

Standard Models

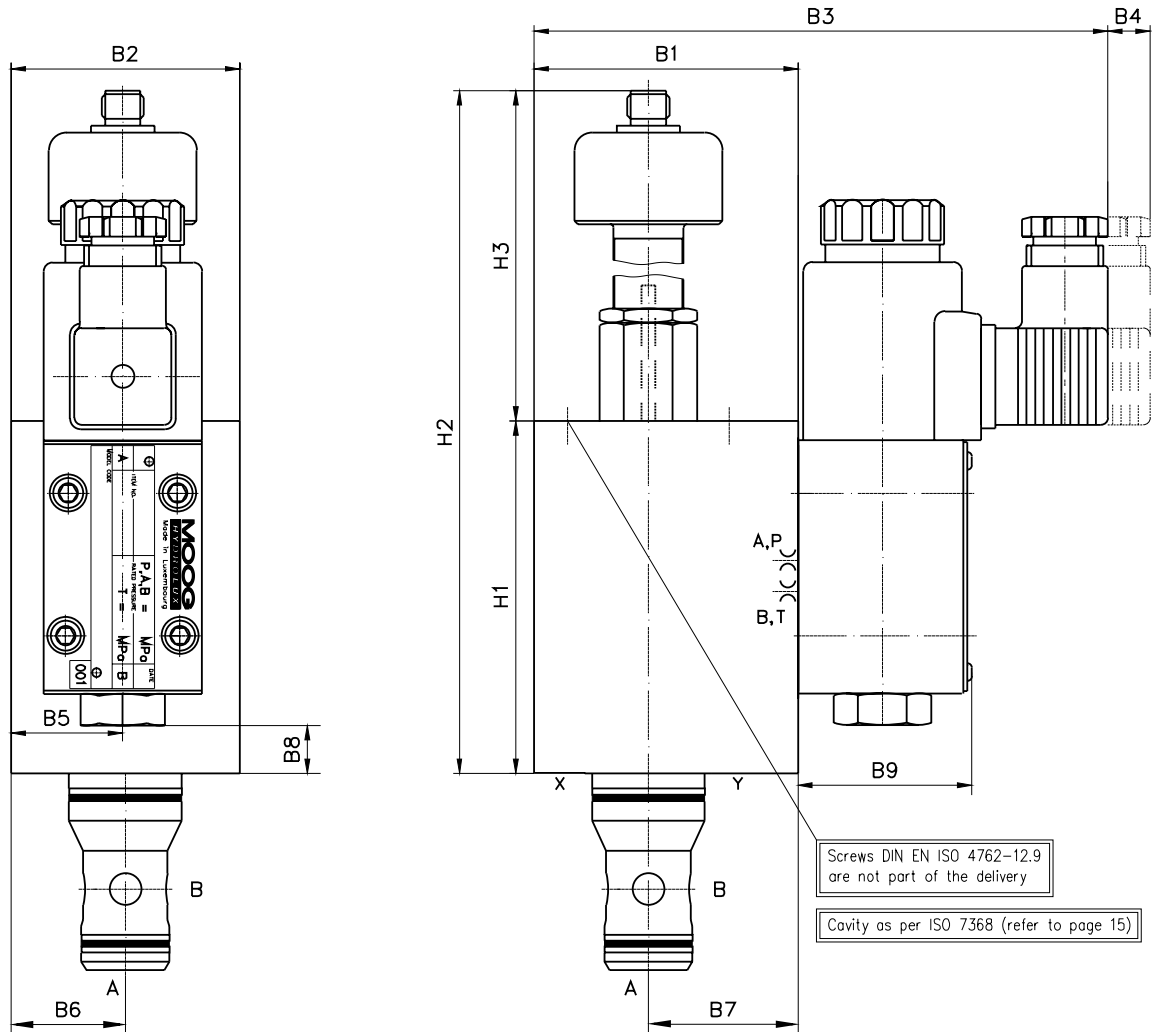
Symbol	Function	Size NG	Weight [kg]	Part Designation	Part Number
 only NG16	without pilot valve	16	4,5	RSE16BL6T1WX_/SI1;OP	XEB16466-000-01
		25	7,0	RSE25BL6T2WX_/SI1;Z2;OP	XEB17189-000-01
 NG25-NG50		32	9,5	RSE32BL6T3WX_/SI1;Z2;OP	XEB16949-000-01
		40	16,5	RSE40BL6T4WX_/SI1;Z2;OP	XEB17003-000-01
 only NG63		50	26,5	RSE50BL6T5WX_/SI1;Z2;OP	XEB17190-000-01
		63	50,0	RSE63BL6T6WX_/SI1;Z2;OP	XEB16968-000-01

Suggested orifices for pilot area A_V

Pilot area	NG	Orifices as per DIN 913 *
	16	M6 x 0,9 mm
	25	M6 x 1,5 mm
	32	M6 x 2,0 mm
	40	M6 x 2,5 mm
	50	M6 x 2,5 mm
	63	M6 x 2,5 mm => NG06-pilot v. / M10 x 3,0 mm => NG10-pilot v.

* for the orifice locations and orifice diameters refer to dimensions pages 11 until 14

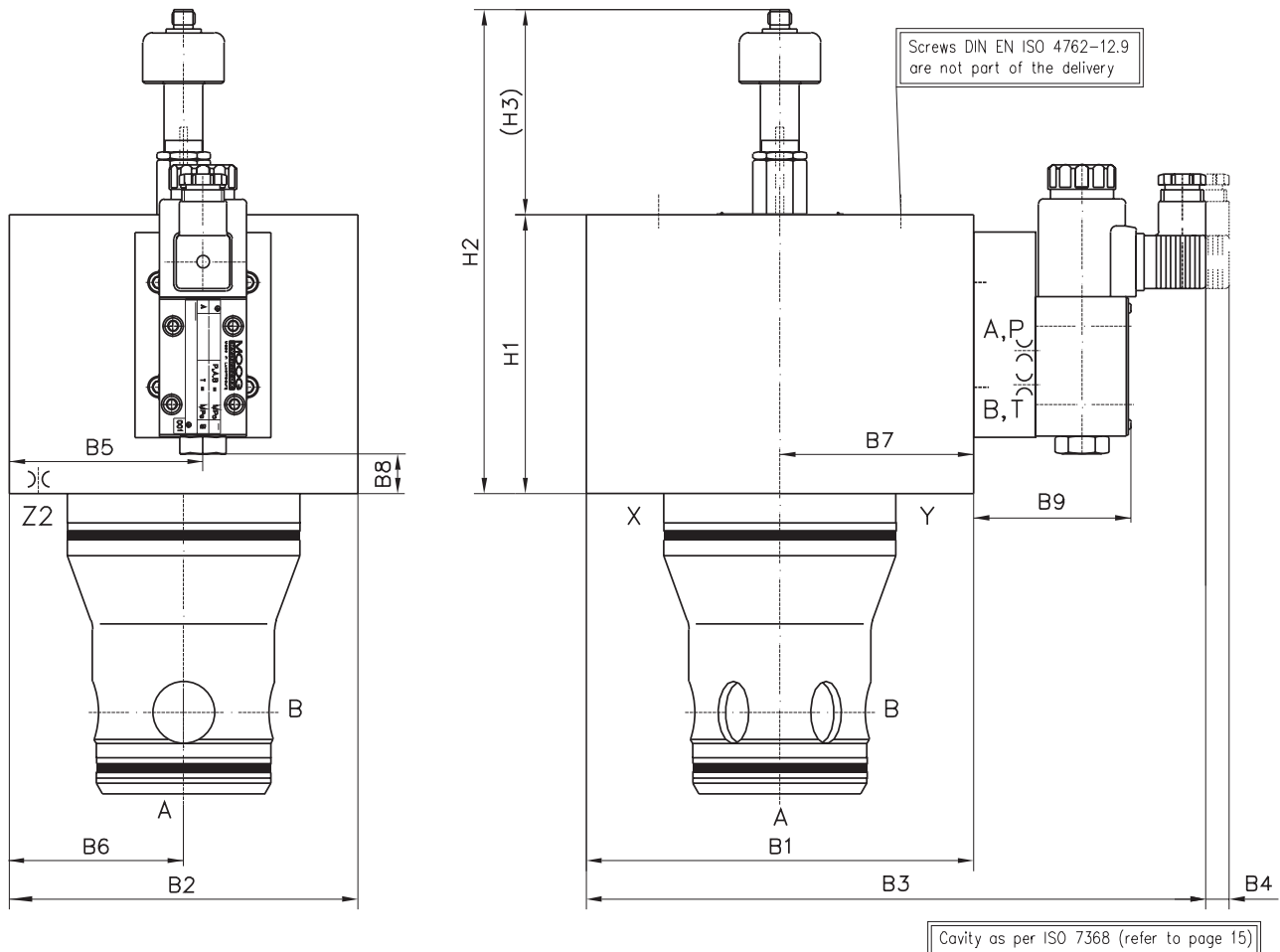
Dimensions WX1 + WX2 - Version NG16



Dimensions	NG16-WX1	NG16-WX2
H1 [mm]	100	100
H2 [mm]	210	210
(H3) [mm]	110	110
B1 [mm]	75	75
B2 [mm]	65	65
B3 [mm]	163	188
B4 [mm]	12	12
B5 [mm]	32,5	32,5
B6 [mm]	32,5	32,5
B7 [mm]	42,5	42,5
B8 [mm]	13	13
B9 [mm]	50	75
Orifice thread in A,B,P and T (see drawing)	M6	M6
* Screws DIN EN ISO 4762-12.9	4x M8 x 95	4x M8 x 95
Tightening torque M_A [Nm]	30	30

* not part of the delivery

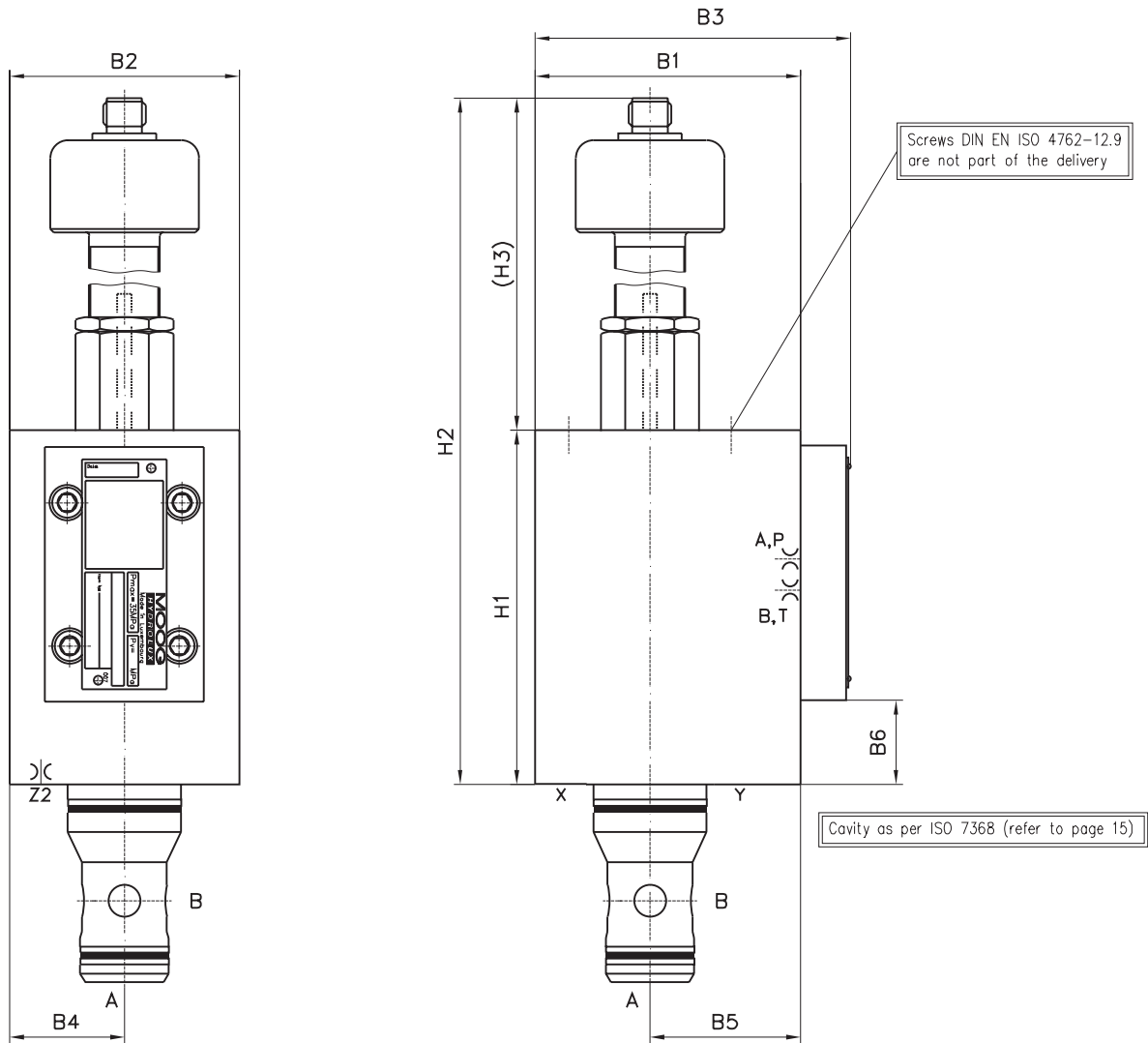
Dimensions WX1 + WX2 -Version NG25 - NG63



Dimensions	NG25	NG32	NG40	NG50	NG63
H1 [mm]	101	109	131	158	151
H2 [mm]	211	219	241	268	254
(H3) [mm]	110	110	110	110	110
B1 [mm]	90	102	125	140	200
B2 [mm]	85	102	125	140	180
B3 [mm]	178 203 (WX2)	190 215 (WX2)	213 238 (WX2)	228 253 (WX2)	320 345 (WX2)
B4 [mm]	12	12	12	12	12
B5 [mm]	39,15	47	57	70	100
B6 [mm]	42,5	51	62,5	70	90
B7 [mm]	47,5	51	62,5	70	100
B8 [mm]	17	25	35	35	20
B9 [mm]	50 75 (WX2)	50 75 (WX2)	50 75 (WX2)	50 75 (WX2)	82
Orifice thread in A,B,P and T (see drawing)	M6	M6	M6	M6	M6
Orifice thread in Z2 (see drawing)	M5	M6	M8	M8	M10
* Screws DIN EN ISO 4762-12.9	4x M12 x 100	4x M16 x 100	4x M20 x 140	4x M20 x 120	4x M30 x 150
Tightening Torque M _A [Nm]	100	300	550	550	1800

* not part of the delivery

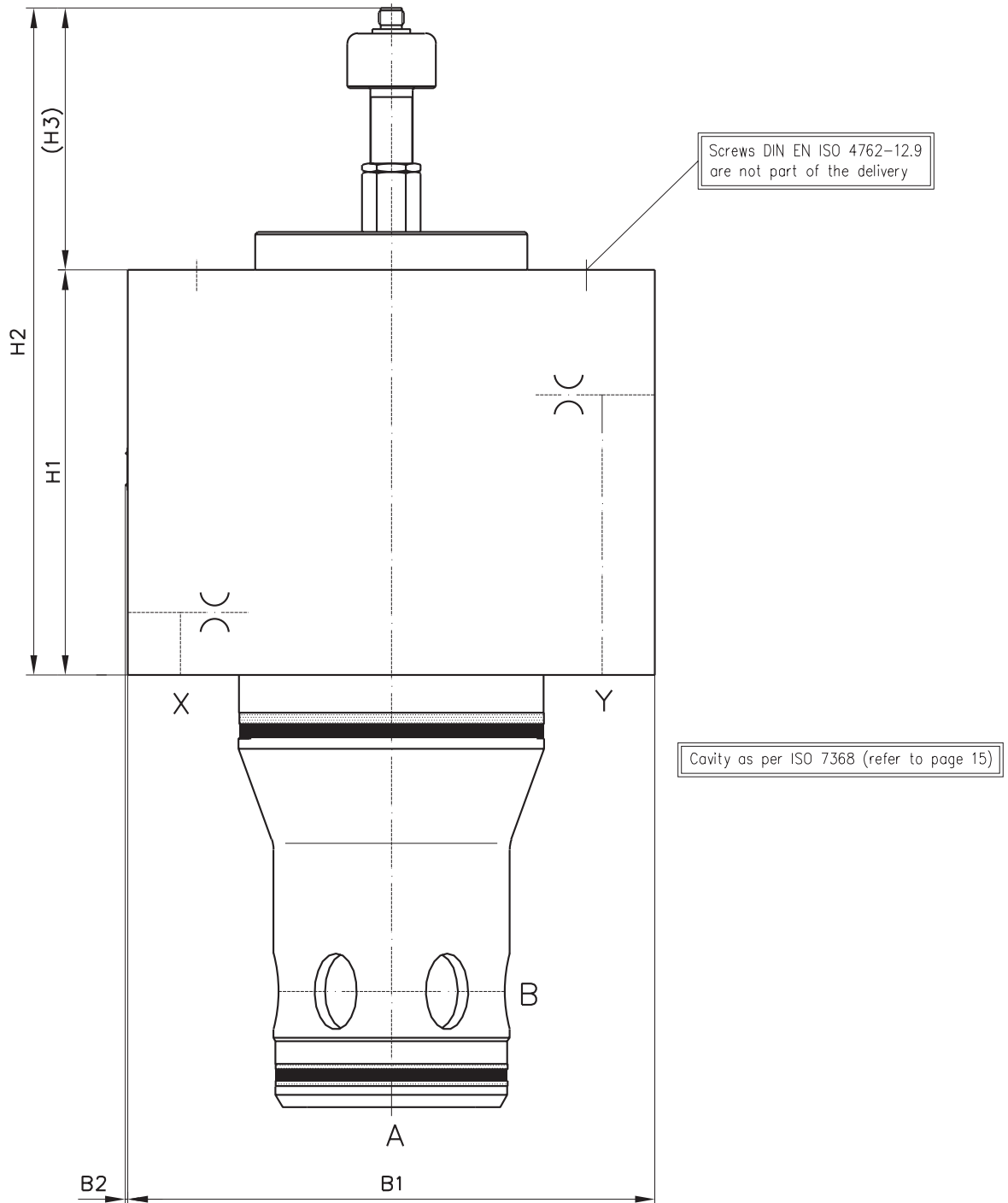
Dimensions WX6 - Version NG16 - NG63



Dimensions	NG16	NG25	NG32	NG40	NG50	NG63
H1 [mm]	100	101	109	131	158	144
H2 [mm]	210	211	219	241	268	254
(H3) [mm]	110	110	110	110	110	110
B1 [mm]	75	90	102	125	140	200
B2 [mm]	65	85	102	125	140	180
B3 [mm]	92	107	119	142	157	225
B4 [mm]	32,5	42,5	51	62,5	70	90
B5 [mm]	42,5	47,5	51	62,5	70	100
B6 [mm]	23	26	35	45	40	28
Orifice thread in A,B,P and T (see drawing)	M6	M6	M6	M6	M6	M10
Orifice thread in Z2 (see drawing)	-	M5	M6	M8	M8	M10
* Screws DIN EN ISO 4762-12.9	4x M8 x 95	4x M12 x 100	4x M16 x 110	4x M20 x 140	4x M20x120	4x M30x150
Tightening torque M_A [Nm]	30	100	300	550	550	1800

* not part of the delivery

Dimensions WX3 - Version NG80 - NG100

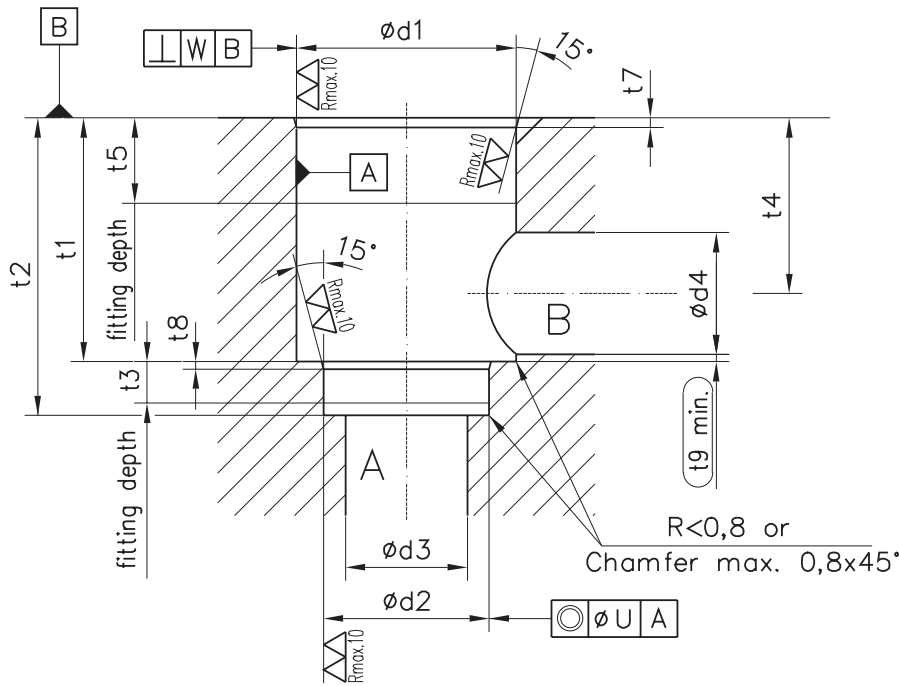


Dimensions	NG80	NG100
H1 [mm]	192	218
H2 [mm]	317	358
(H3) [mm]	125	140
B1 [mm]	∅ 250	∅ 300
B2 [mm]	2	-
Orifice thread in X and Y (see drawing)	M14	M16
* Screws DIN EN ISO 4762-12.9	8x M24 x 200	8x M30 x 170
Tightening Torque M_A [Nm]	900	1800

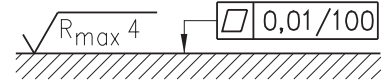
* not part of the delivery

Mounting Dimensions NG16 - NG100

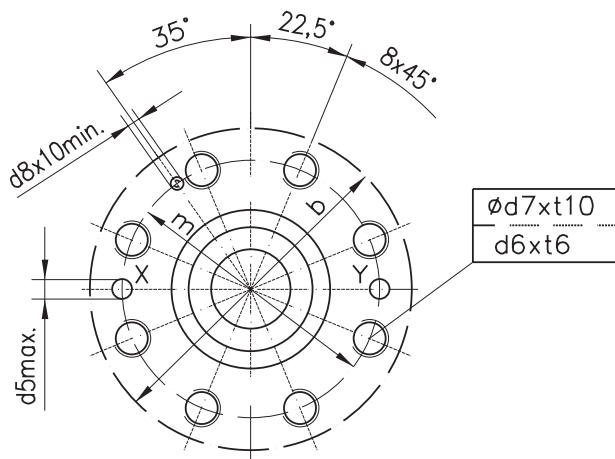
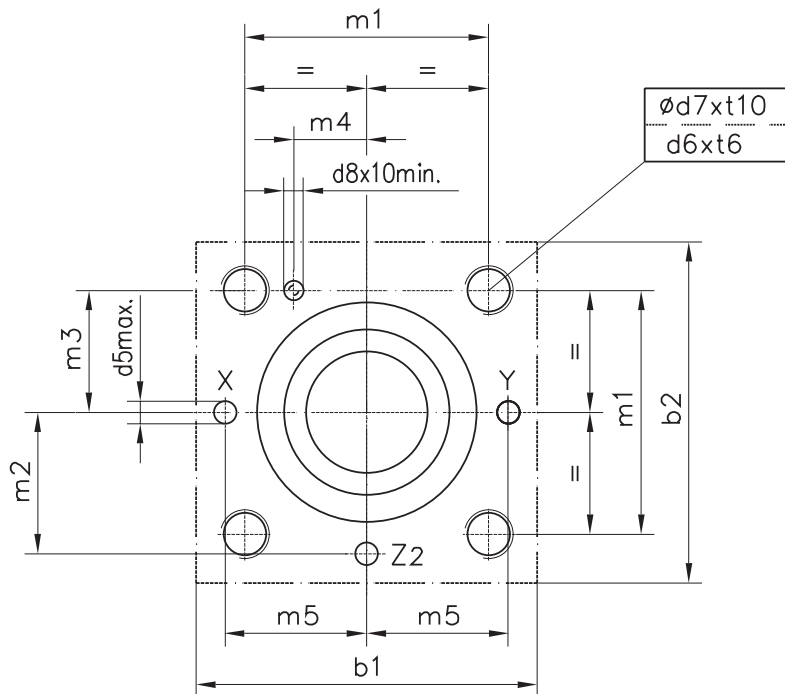
CAVITY AS PER ISO 7368



Required surface finish

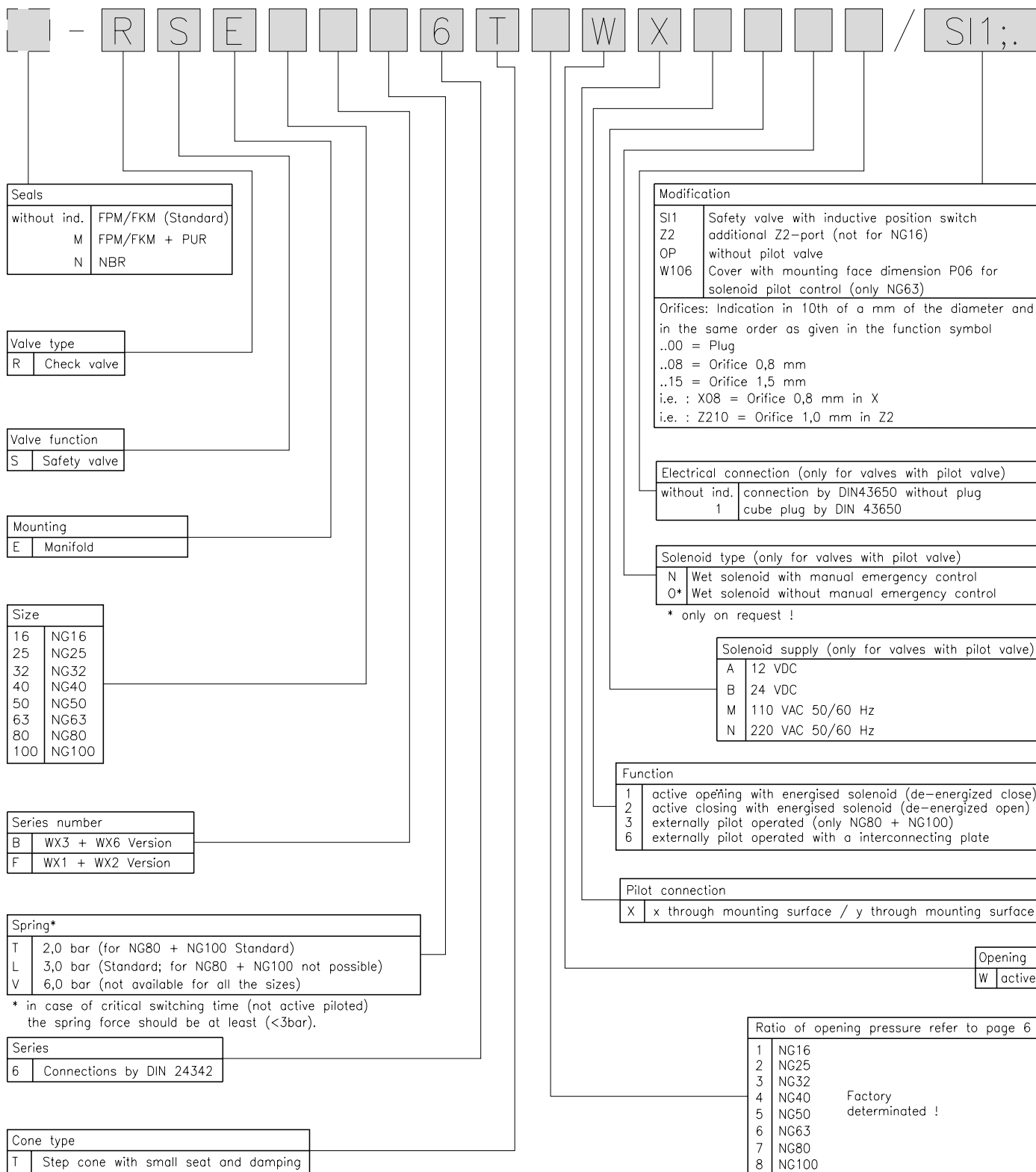


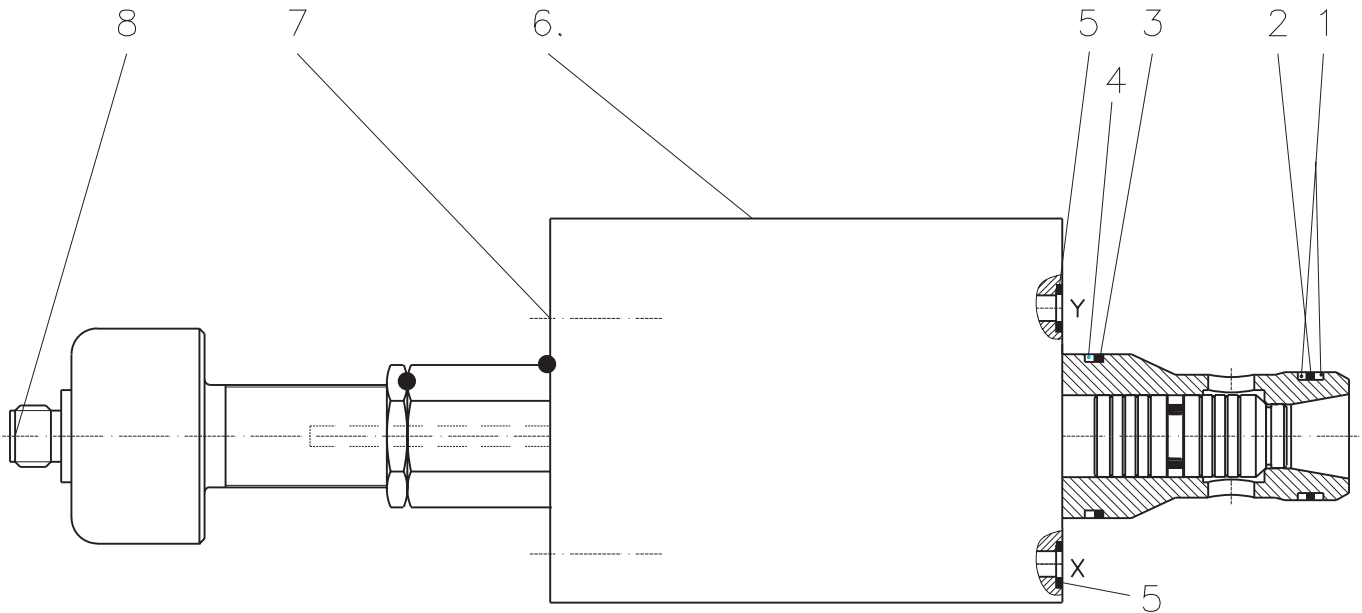
Dimension	NG16	NG25	NG32	NG40	NG50	NG63
b1	75	90	102	125	140	200
b2	65	85	102	125	140	180
d1 ^{H7}	32	45	60	75	90	120
d2 ^{H7}	25	34	45	55	68	90
d3	16	25	32	40	50	63
d4	16	25	32	40	50	63
d4 _{max.}	25	32	40	50	63	80
d5 _{max.}	4	6	8	10	10	12
d6	M8	M12	M16	M20	M20	M30
d7	6,8	10,2	14	17,5	17,5	26,5
d8 ^{H13}	4	6	6	6	8	8
m1 $\pm 0,2$	46	58	70	85	100	125
m2 $\pm 0,2$	25	33	41	50	58	75
m3 $\pm 0,2$	23	29	35	42,5	50	62,5
m4 $\pm 0,2$	10,5	16	17	23	30	38
m5 $\pm 0,2$	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	40
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



Dimension	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
d8 ^{H13}	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 $\pm 0,3$	200	245
U	0,05	0,05
W	0,2	0,2

Ordering Information





Pos.	Designation	Order Number								
			NG16	NG25	NG32	NG40	NG50	NG63	NG80	NG100
1	Back-Up Ring	X780-	08020	18122	18222	18225	18229	18338	18344	18427
2	O-Ring Fluorocarbon	X980-	02020	02122	02222	02225	02229	02338	02344	02427
3	O-Ring Fluorocarbon	X980-	02024	02129	02227	02231	02338	02347	02430	02439
4	Back-Up Ring	X780-	18024	18129	08227	18231	18338	08348	08431	18439
5	O-Ring Fluorocarbon	X980-	02010	02012	02012	02013	02112	02116	02115	02220
	Seal Kit (Pos.1 - 5)	XEB	17324	17325	17326	17327	17328	17329	17330	17331
6	Seal Kit									
	Pilot valve NG06	XEB	16512-000-00							
	Pilot valve NG10	XEB	13746-000-00							
7	Screws DIN EN ISO 4762 - 12.9 (not part of the delivery !)	X784-	10819 (4x)	11209 (4x)	11607 (4x)	12016 (4x)	12008 (4x)	13006 (4x)	12409 (4x)	13004 (4x)
	Pin Connector + Cable (not part of the delivery !)	X798-	00030 (5 m Cable length)							
		X798-	00085 (10 m Cable length)							
8										

Order example : O-Ring Fluorocarbon Pos.7 NG32 => Order number : X980-02013

Fachausschüsse
Eisen und Metall III
und Hebezeuge
Prüf- und Zertifizierungsstelle
im BG-PRÜFZERT



Hauptverband der gewerblichen
Berufsgenossenschaften

Baumusterprüfbescheinigung

99 087

Bescheinigungs-Nummer

Name und Anschrift
des Bescheinigungsnehmers:
(Auftraggeber)

MOOG Hydraulix S.à.r.l.
1, rue de l'Acierie
L - 1112 Luxembourg

Name und Anschrift
des Herstellers:

- siehe oben -

Zeichen des Auftraggebers: Zeichen der Prüf- und Zertifizierungsstelle:
EM III 612.1.612.28-UB Gb/bt 25. April 2001

Produktbezeichnung: **2/2 Wegezventil mit induktivem Überwachungsschalter**
-Standardausführung-

Typ: RSE 16 / 25 / 32 / 40 / 50 / 63 / 80 / 100
B_6_WX_SI1

Bestimmungsgemäße
Verwendung: Zur Verwendung für hydraulische Schließicherungen in Spritzgießmaschinen gemäß
Herstellereinbauanleitung

Prüfgrundlage: * Grundsätze für die Prüfung der Arbeitssicherheit von Spritzgießmaschinen,
Ausgabe 11/1987
* EN 201:1987 "Gummi- und Kunststoffmaschinen SPRITZGIEßMASCHINEN
Sicherheitsanforderungen"

Bemerkungen: Das jeweilige Ventil ist gemäß § 1 Abs. 2b der Unfallverhütungsvorschrift
"Spritzgießmaschinen" (VBG 7 a) bzw. Kapitel 6 der EN 201:1987 "Spritzgießmaschinen -
Sicherheitsanforderungen" von der Steuerung der Spritzgießmaschine selbstständig zu über-
wachen, so dass auch bei Versagen des Positionsschalters ein erneuter Maschinenzyklus
nicht mehr eingeleitet werden kann.

- siehe RÜCKSEITE -
- Folgebescheinigung zu der Prüfnummer 99 087 vom 09.08.1999 -
Das geprüfte Baumuster entspricht den einschlägigen Bestimmungen der Richtlinie 98/37/EG (Maschinen).

Diese Bescheinigung wird spätestens ungültig am:

01.09.2004

Weiteres über die Gültigkeit, eine Gültigkeitsverlängerung und andere Bedingungen regelt die Prüf- und Zertifizierungs-
ordnung vom Oktober 1997.



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Unterschrift (Dipl.-Ing. Heinke)



Tel.: 02 11/8224-4
Fax: 02 11/8224-86

Rückseite der Baumusterprüfbescheinigung

Die Gültigkeit der Prüfbescheinigung (Nummer 99 087) wird verlängert bis

Datum
Unterschrift

Bemerkungen:

- Die Prüfbescheinigung schließt die Umlenplatte für WX 6-Ausführung mit ein.
- Die Prüfbescheinigung bezieht sich auf die Hauptstufe. Bei Ausführung des Ventils mit 4/2-Wegevorsteuerventil (WX 1-Ausführung) ist im Rahmen einer Fehlersimulation an der ausgeführten Steuerung nachzuweisen, dass eine ausreichende Überwachung des Vorsteuerventils durch die Überwachung der Hauptstufe gewährleistet ist.



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