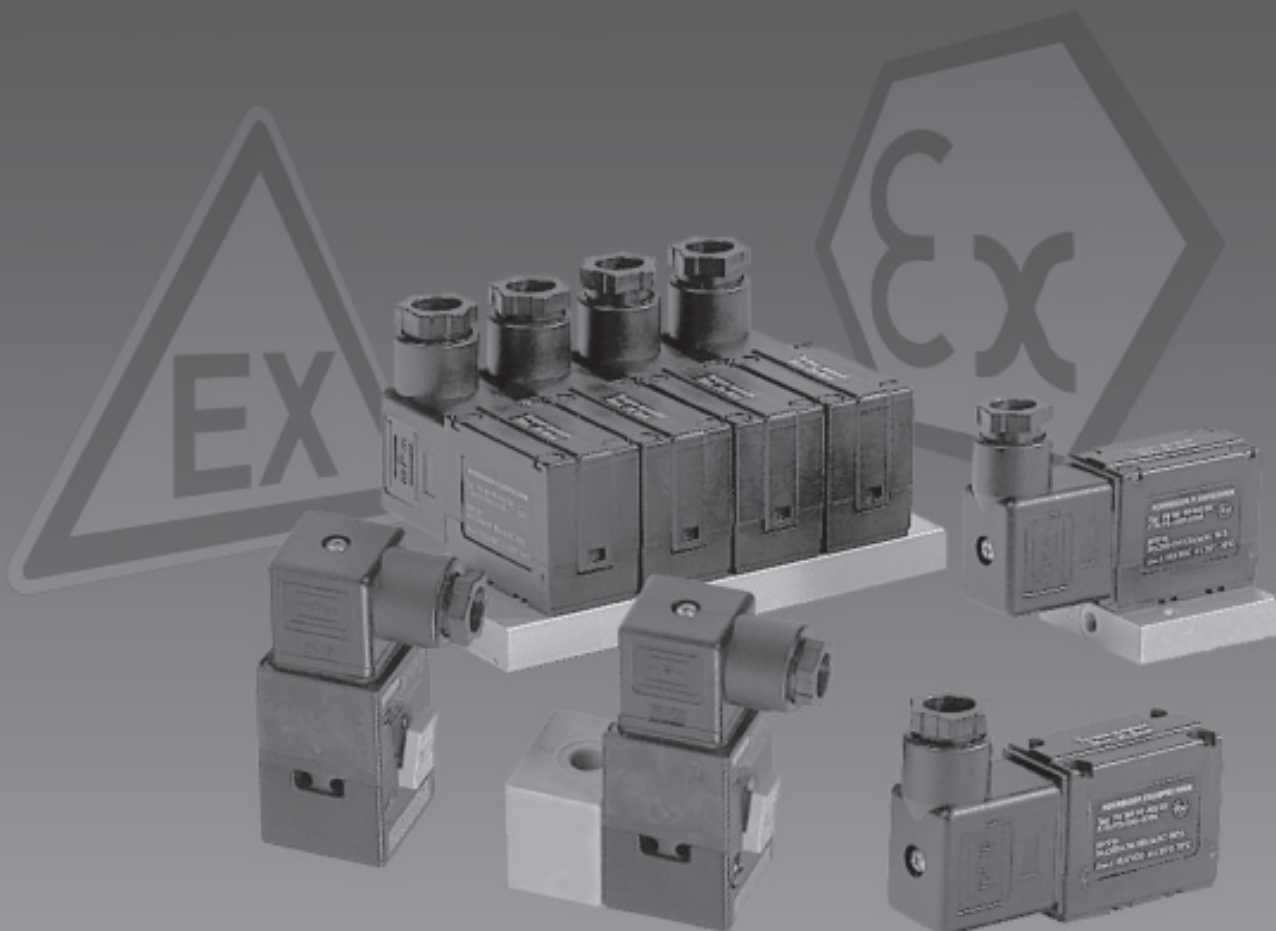


3/2 Way Poppet Valves

 intrinsically safe

Series P8

Series P20



HOERBIGER

Directional Valves – intrinsically safe, piezo electrically actuated Series P8, P20

Overview and Order Instructions

3/2 Way Poppet Valves (Pilot and Single Valves) – Series P8

Actuation	Symbol	Port size	Order Instructions Type	Order No.
Pilot valve ⁽¹⁾ normally closed		NW 1.6	P8 381RF-NG-S.	PS 11001-..0A
normally open ^{(1) (3)}		NW 1.6	P8 381RF-NO-S.	PS 10002-..0A
Single valve M5 ⁽²⁾		M5	P8 381RF-M5 NG-S.	PS 11003-..0A-01

⁽¹⁾ without base plate and without plug

⁽²⁾ with plug and with base plate

⁽³⁾ on special demand only

Version	Nominal voltage	Type key	Key code
Intrinsically safe	5,5 – 9 V DC ⁽³⁾	PT63	63
II 2G EEx ia IIC T4/T5/T6	6 – 16 V DC	PM64	64
	7 – 30 V DC	PN61	61
	11 – 30 V DC	PN65	65

3/2 Way Poppet Valves (Pilot and Single Valve) – Series P20

Actuation	Symbol	Port size	Order Instructions Type	Order No.
Pilot valve ⁽¹⁾ normally closed		NW 2	P20 381RF-NG-C.	PS 10021-..1A
normally open ^{(1) (3)}		NW 2	P20 381RF-NO-S.	PS 10022-..1A-01
Single valve G1/8 ⁽²⁾ normally closed		G1/8	P20 381RF-1/8NG-C.	PS 10023-..1A-01

⁽¹⁾ without base plate and without plug

⁽²⁾ with plug and with base plate

⁽³⁾ on special demand only

Version	Nominal voltage	Type key	Key code
Intrinsically safe	5,5 – 9 V DC ⁽³⁾	PT63	63
II 2G EEx ia IIC T4/T5/T6	6 – 16 V DC	PM64	64
	7 – 30 V DC	PN61	61
	11 – 30 V DC	PN65	65

Base Plates and Accessories for Series P8 and P20

Series P8

Description	Type	Order No.
Base plate for 1 valve		PS11614-A-01
Base plate for 2 valves		PS11614-A-02
Base plate for 4 valves		PS11614-A-04
Base plate for 6 valves		PS11614-A-06
Base plate for 8 valves		PS11614-A-08
Base plate for 10 valves		PS11614-A-10
Blanking plate, complete		PS11530-A
Plug	GSD-22	KY9393
Plug with LED	on special demand only	

Series P20

Description	Type	Order No.
Base plate for 1 valve		PS10531-A-01
Base plate for 2 valves		PS10531-A-02
Base plate for 4 valves		PS10531-A-04
Base plate for 6 valves		PS10531-A-06
Base plate for 8 valves		PS10531-A-08
Base plate for 10 valves		PS10531-A-10
Blanking plate, complete		PS10559-A
Plug	GSD-30	KY5637
Plug with LED	on special demand only	

For Accessories (Fittings, Tubes etc.) see Catalogue „Pneumatic Accessories“ No. A4P021.
 For informations about the complete HOERBIGER-ORIGA Pneumatic Programm see our homepage
www.hoerbiger-origa.com

Directional Valves – intrinsically safe, piezo electrical actuated Series P8, P20

Characteristics

Series P8 – NW1.6 and Base Plate M5
Series P20 – NW 2.0 and Base Plate G1/8

Characteristics	Symbol	Unit	Series P8 NW 1.6 and M5	Series P20 NW 2.0 and G1/8
Actuation			piezo electrical piloted	piezo electrical piloted
General Features				
Type			Piezo poppet valve, some overlap	Piezo poppet valve, some overlap
Mounting			Flange (see dimensional drawing)	Flange to CNOMO (see dimensional drawing)
Tube connection			Flange / Thread	Flange / Thread
Thread			M5 – with base plate	G1/8 – with base plate
Weight		kg	0.050 (pilot valve)	0.080 (pilot valve)
Flow direction			ON: from 1 to 2 OFF: from 2 to 3	ON: from 1 to 2 OFF: from 2 to 3
Installation			In any position	In any position (preferred position Plug on top)
Ambient temperature range	$\vartheta_{min./max.}$	°C	0 bis +60 (-10 to +60) ¹⁾	0 bis +60 (-10 to +60) ¹⁾
Medium temperature range	$\vartheta_{min./max.}$	°C	0 bis +60 (-10 to +60) ¹⁾	0 bis +60 (-10 to +60) ¹⁾
Medium ¹⁾			Filtered air (30 μ), no or minimal oil mist lubrication (max.30mg/m ³) (we recommend the use of mineral oil type VG 32 to ISO 3448)	
Pneumatic Characteristics				
Nominal pressure	$p_{min./max.}$	bar	6	6
Operating pressure range	$p_{min./max.}$	bar	1.2 – 8	1.2 – 8
Nominal flow	Q_N	l/min	50	110
Nominal size		mm	1.6	2.0

Piezo Electrical Actuation ²⁾						
Approval			Series P8: EU type test certificate DMT 01 ATEX E 026 X Series P20: EU type test certificate DMT 01 ATEX E 025 X			
Category, type of protection			II 2G EEx ia IIC T4/T5/T6			
HOERBIGER Code			PT63	PM64	PN61	PN65
Voltage			DC-Voltage	DC-Voltage	DC-Voltage	DC-Voltage
Switching voltage	$U_{,on}$	V/DC	5.5 – 9 ⁴⁾	6 – 16	7 – 30	11 – 30
	$U_{,off*max^3)}$	V/DC	1	1	1	1
Current	$I_{,on}$	mA	1 – 19	1.7 – 23	2 – 19	2 – 6.6
	$I_{,off*max^3)}$	mA	0.05	0.1	0.22	0.1
Power Rating	P_n	mW	5.5 – 171	10 – 368	14 – 571	22 – 198
Duty Cycle	ED	%	100% ED within maximal duty time of 6000 hours permanent operation			
Electrical protection	IP		Series P8: IP43 Series P20: IP54			
Connection			Series P8: Plug to industrial connector B Series P20: Plug to DIN EN 175301-803A			
Safety data according to EU type test certificate						
Voltage	U_i	V	9	16	30	30
Current	I_i	mA	–	–	–	–
External capacitance	C_i	nF	12	12	12	12
External inductance	L_i	nH	–	–	–	–

¹⁾ Operating below freezing temperature requires dried air (dew point 10° C under ambient temperature)

²⁾ not to be used as safety valve

³⁾ in use with wire break detection, characteristics must be checked, $U_{,off*max}$ and $I_{,off*max}$ value must be \leq as above noted.

⁴⁾ on special demand only

Technical Information

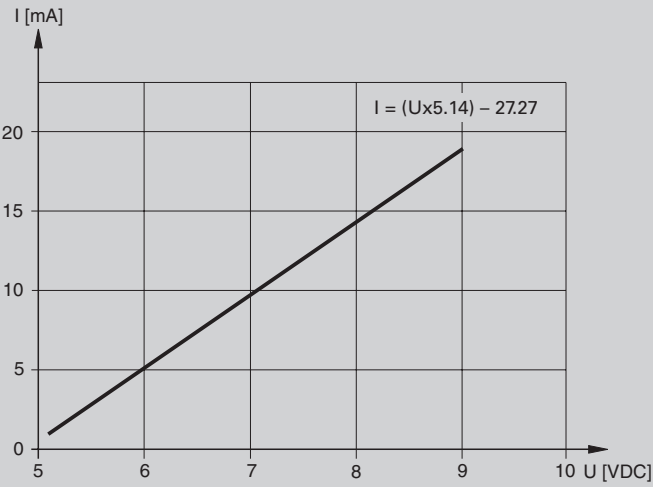
– In case outdoor installation, protect all ports against humidity.

– The present compatibility table intrinsically safe equipment, for valves from HOERBIGER-ORIGA is available on request.
Contact address see last page.

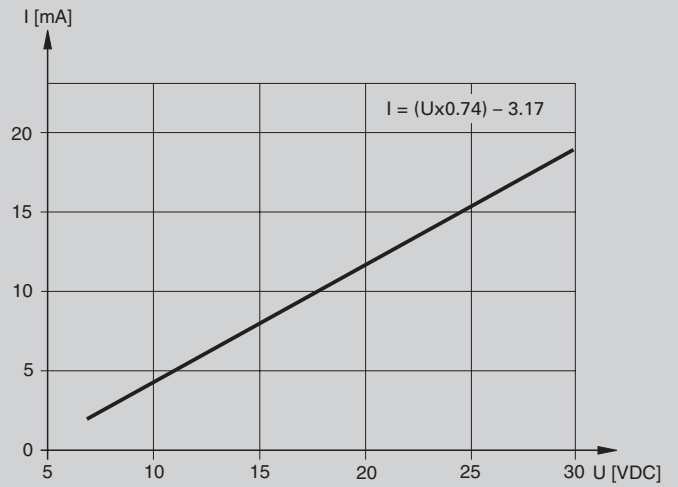
The right to introduce technical modifications is reserved.

I/U – Diagramm (I_{on} / U_{on})

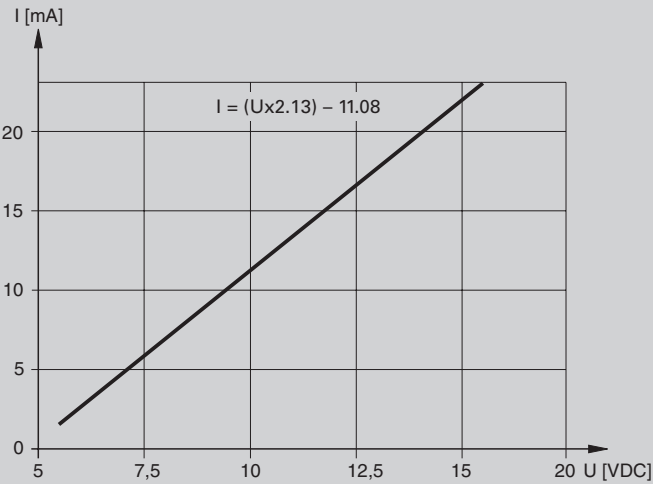
Version PT



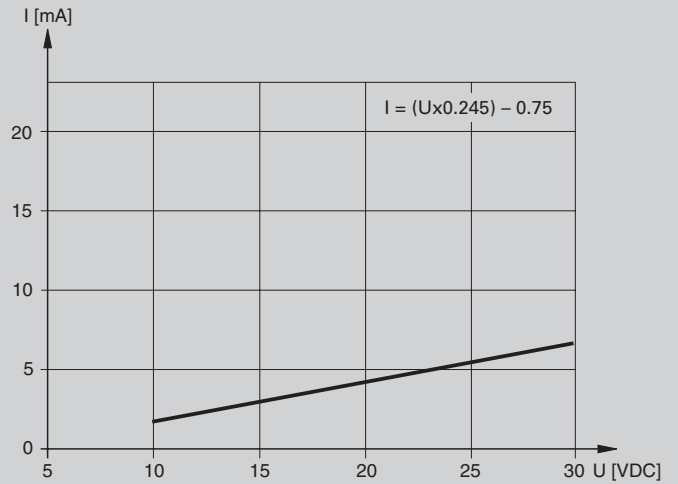
Version PN 610



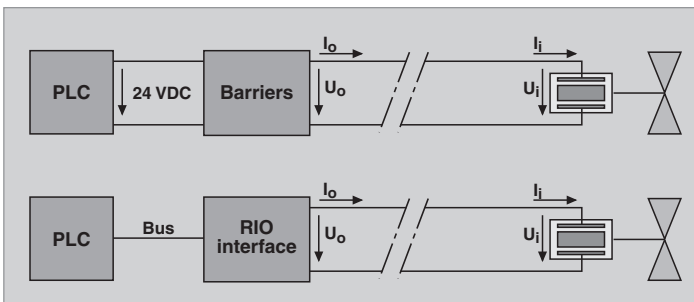
Version PM



Version PN 650



Selection criteria for operating equipment/valve



Equipment	Condition	Valve	Unit
U_o	\leq	$U_{i \max}$	V DC
I_o	\leq	$I_{i \max}$	mA
P_o	\leq	$P_{i \max}$	mW
L_o	\geq	$L_i + L_c^{(1)}$	nH
C_o	\geq	$C_i + C_c^{(2)}$	nF

⁽¹⁾ L_c = Wiring inductance

⁽²⁾ C_c = Wiring capacitance

3/2 Way Valves (Pilot Valves with Base Plate)

Series P8 – intrinsically safe, piezo electrical actuated

3/2 Way Poppet Valve Series P8 NW 1.6 and M5

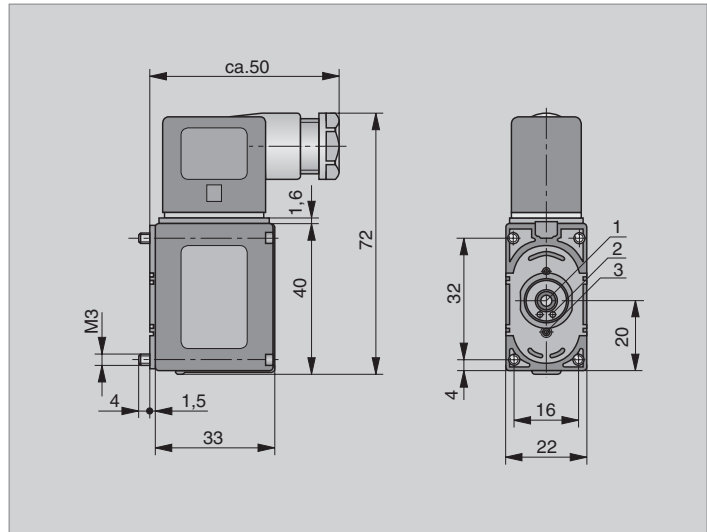
Actuation:
– Piezo electric piloted



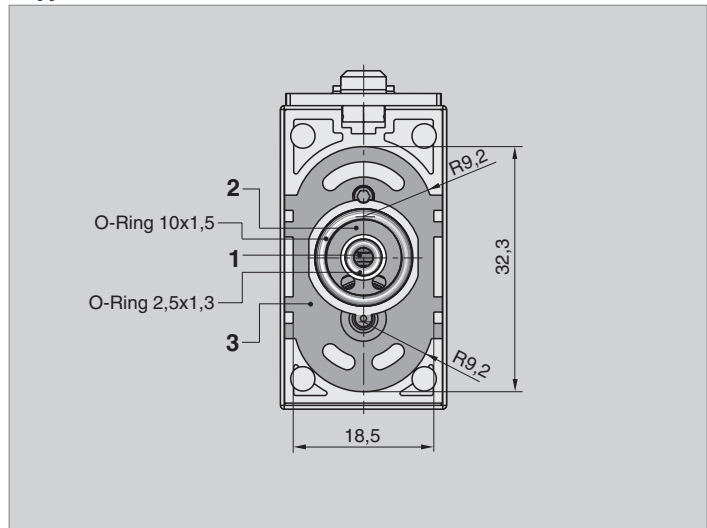
Versions

- Pilot valve NW1.6
- Single valve M5
- Manifold version M5
- Normally closed
- * Normally open, on special demand only

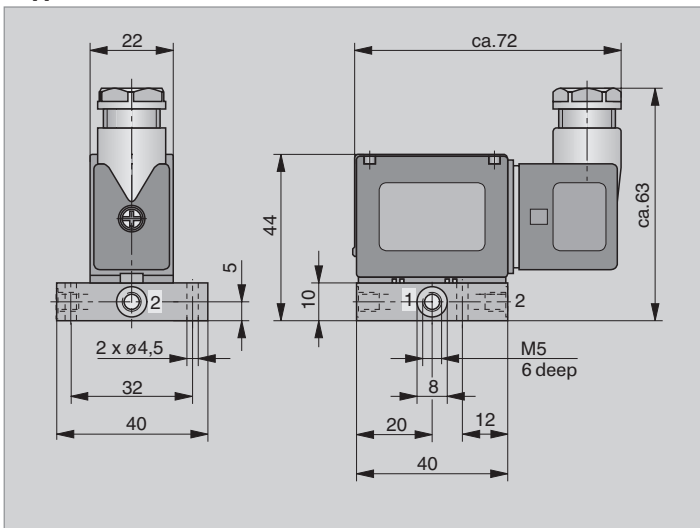
Pilot Valve Type: P8 381RF-NG(NO*)-



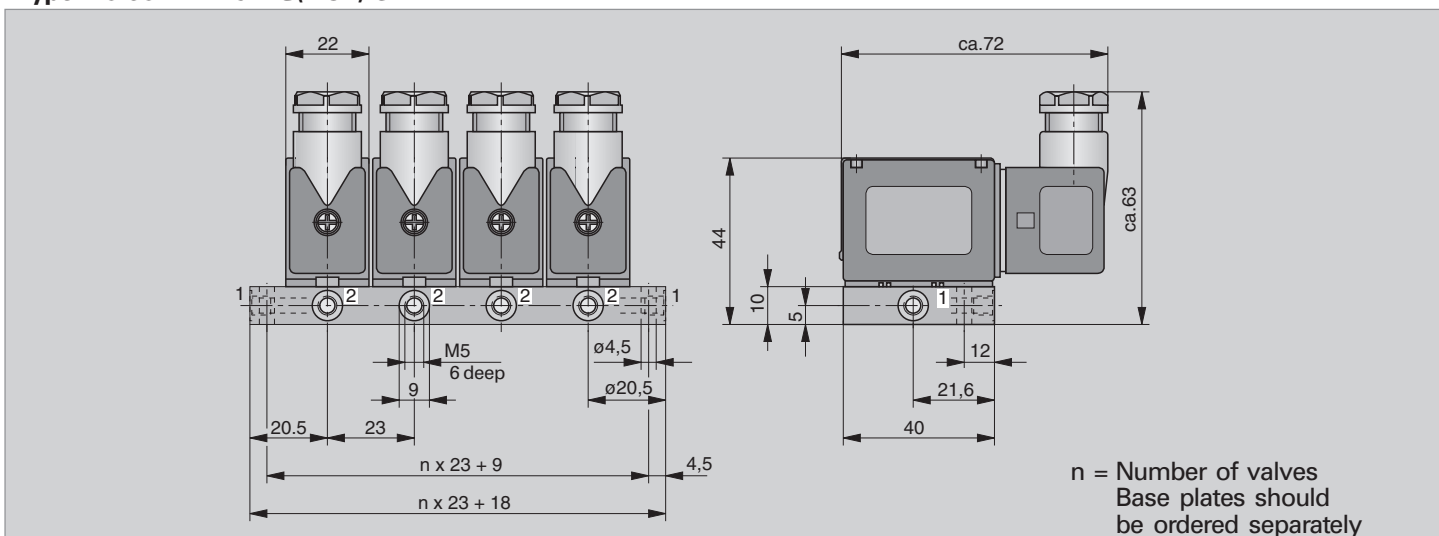
Pilot Valve – Connections Diagram Type: P8 381RF-NG(NO*)-



Single Valve Type: P8 381RF-M5 NG(NO*)-



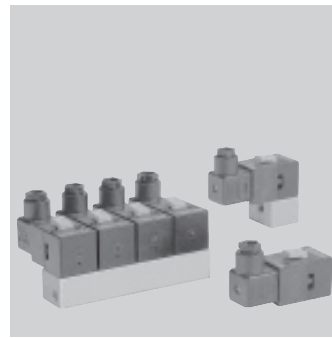
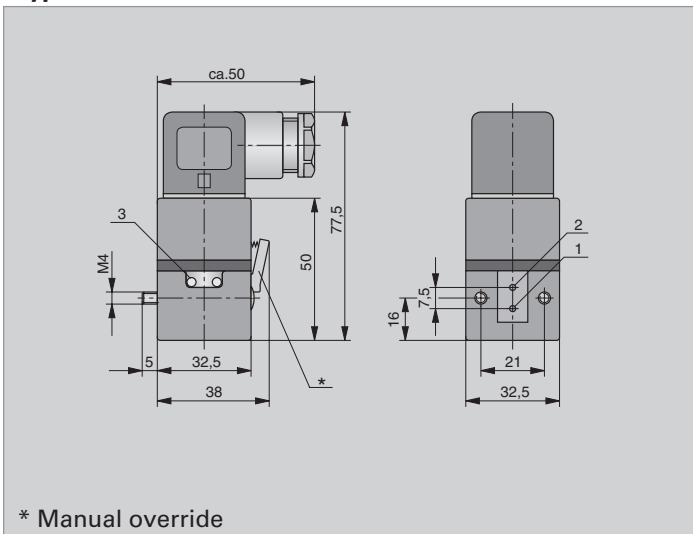
Manifold Version Type: P8 381RF-M5 NG(NO*)-S.



n = Number of valves
Base plates should be ordered separately

Series P20 – intrinsically safe, piezo electrical actuated

Pilot Valve – Connections Diagram to CNOMO Type: P20 381RF-NG(NO*)-



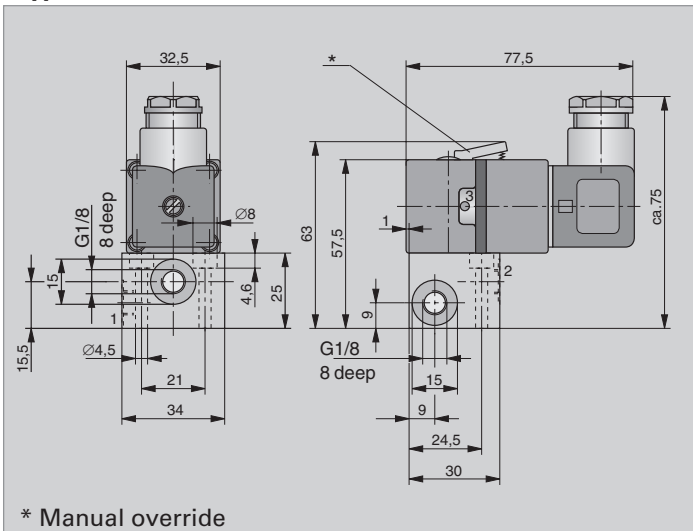
3/2 Way Poppet Valve Series P20 NW 2 and G1/8

Actuation:
– Piezo electric piloted

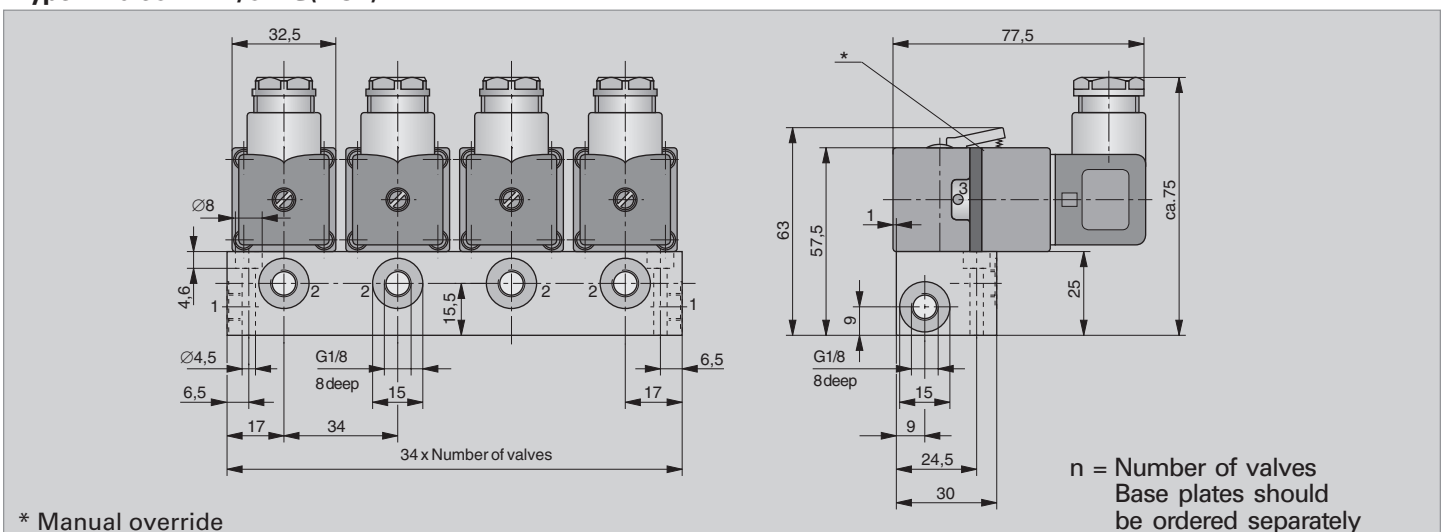
Versions

- Pilot valve NW2 Connections Diagram to CNOMO
- Single valve G1/8
- Manifold version G1/8
- Normally closed
- * Normally open, on special demand only

Single Valve Type: P20 381RF-1/8 NG(NO*)-



Manifold Version Type: P20 381RF-1/8 NG(NO*)-



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