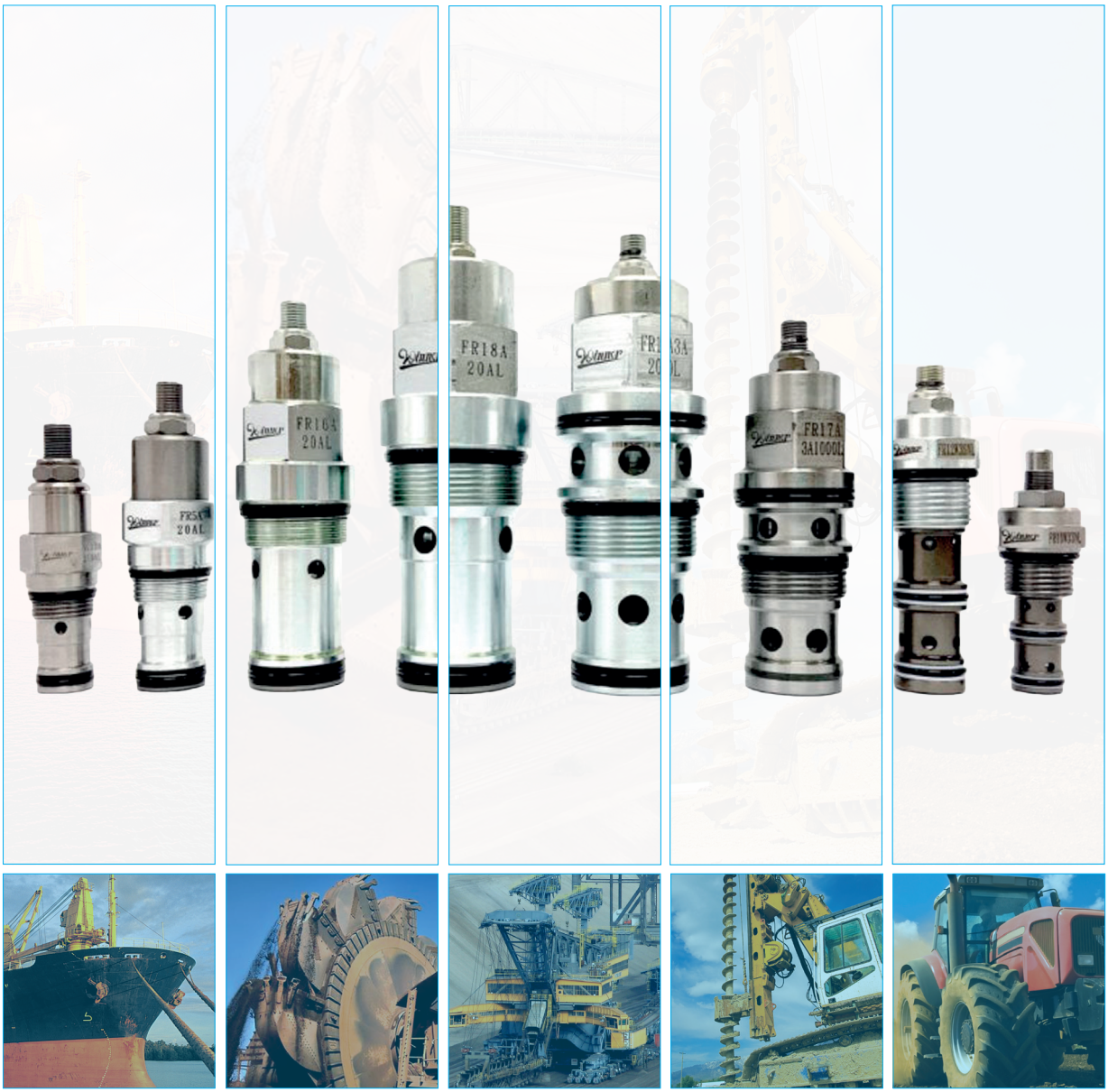
Winner

CERTYFIKACJA SYSTEMU JAKOŚCI DNV·GL ISO 9001



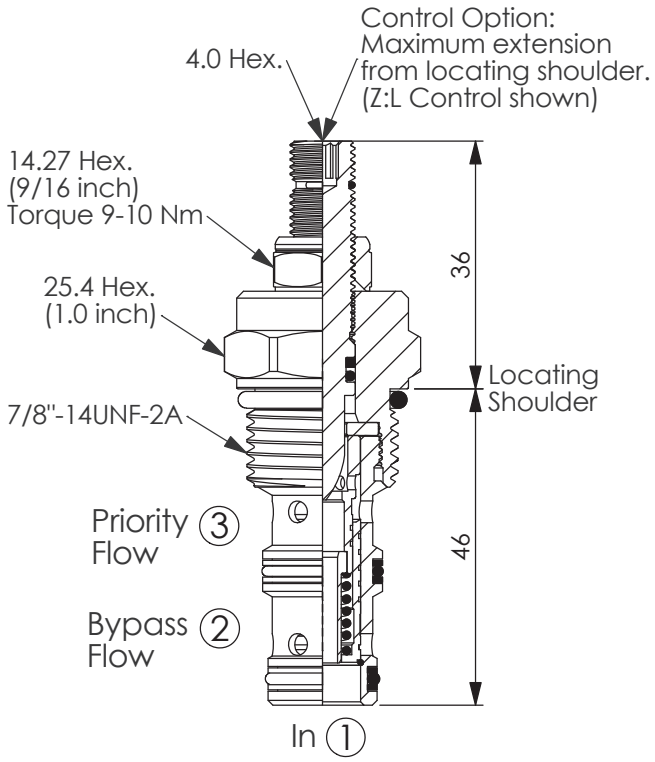
ZAWORY
REGULUJĄCE PRZEPŁYW

HYDROPRESS®
hydraulika siłowa

PRIORITY FLOW CONTROL VALVE

(Bypass/Pressure compensated)

Ordering Code:	**FR-10W-X-Y-Z**	



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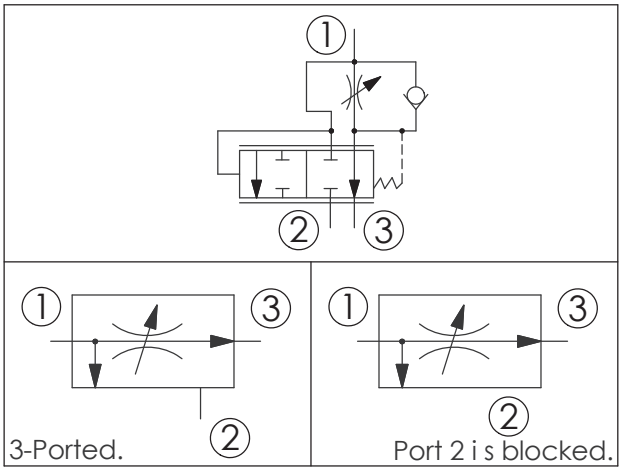


TECHNICAL DATA

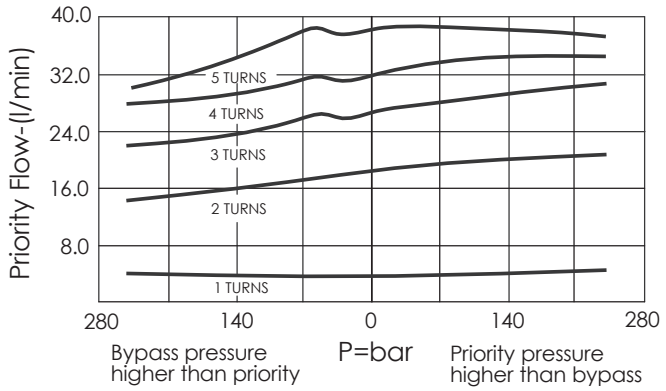
Max. pressure:	240	bar
Rated Input Flow:	3-ported : 0-38 LPM nominal 0-57 LPM max.	
Cavity-Tooling:	10W-3	
Installation torque:	35-45	Nm
Weight:	0.16 (Z:L)	kg

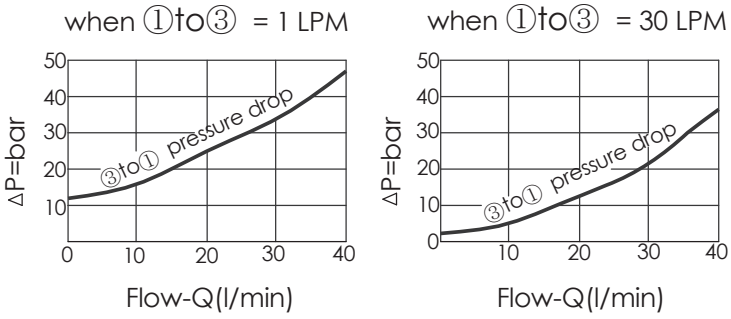
Note: It can be used as a priority-type flow regulator or a restrictive-type 2-way flow regulator when the bypass port (port 2) is blocked.

Port ① to Port③ △P=14 bar

3-Ported

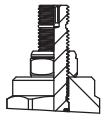
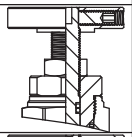
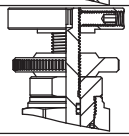
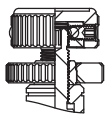
Regulated Flow vs. Load at 38 LPM Inlet





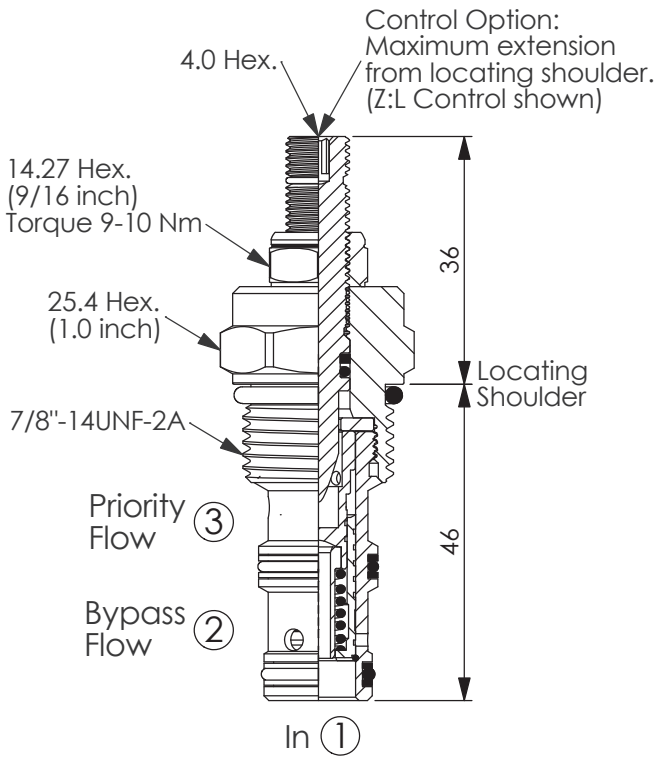
X	PRIORITY FLOW RANGE	
33	Flow Rate : 3-ported regulated flow 0-38 LPM 2-ported regulated flow 0-34 LPM	
For Lower flow rates,see the FR-10W-31 valve		

Y	SPRING RANGE	
N	(Standard)	

Z	OPTIONS		
L	Leakproof hex. socket screw.		
E	Handknob and locknut.		
B	Handknob and aluminum locknut.		
K	Handknob with Lock Knob.		

PRIORITY FLOW CONTROL VALVE
(Bypass/Pressure compensated)

Ordering Code:	**FR-10W-X-Y-Z**



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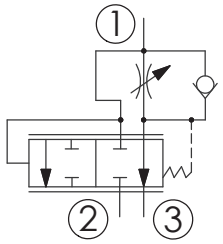
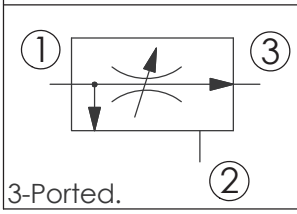
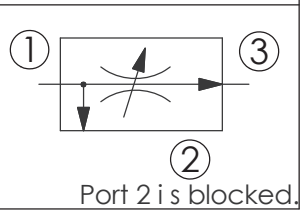




3-Ported.



Port 2 i s blocked.

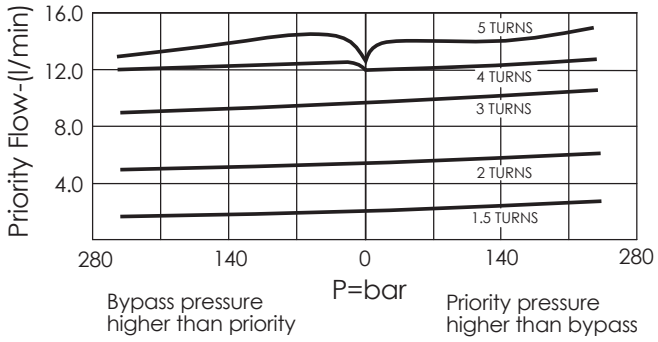
TECHNICAL DATA

Max. pressure:	240	bar
Rated Input Flow:	3-ported : 0-19 LPM nominal 0-26 LPM max.	
Cavity-Tooling:	10W-3	
Installation torque:	35-45	Nm
Weight:	0.16 (Z:L)	kg

Note: It can be used as a priority-type flow regulator or a restrictive-type 2-way flow regulator when the bypass port (port 2) is blocked.

Port ① to Port③ △P=14 bar

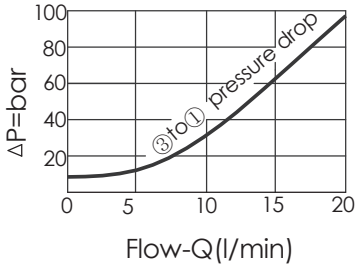
3-Ported
Regulated Flow vs. Load at 18.9 LPM Inlet



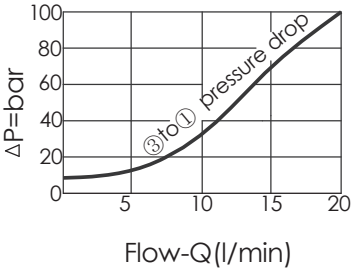
X	PRIORITY FLOW RANGE	
31	Flow Rate : 3-ported regulated flow 0-13 LPM 2-ported regulated flow 0-12 LPM	
For Higher flow rates,see the FR-10W-33 valve		

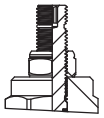
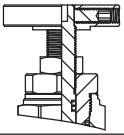
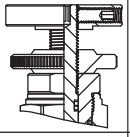
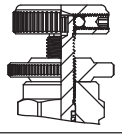
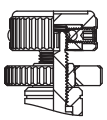
Y	SPRING RANGE	
N	(Standard)	

when ①to③ = 1 LPM



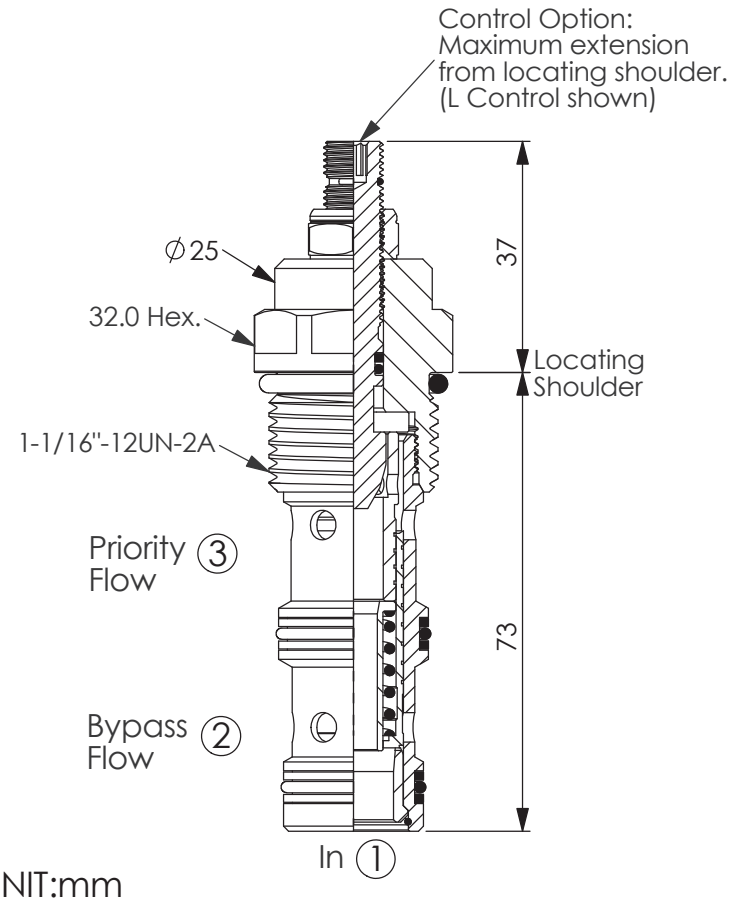
when ①to③ = 10 LPM



Z	OPTIONS		
L	Leakproof hex. socket screw.		
E	Handknob and locknut.		
B	Handknob and aluminum locknut.		
B1	Handknob and aluminum locknut.		
K	Handknob with Lock Knob.		

FLOW CONTROL VALVE
(Bypass/Pressure compensated)

Ordering Code: **FR-12W-X-Y-Z**



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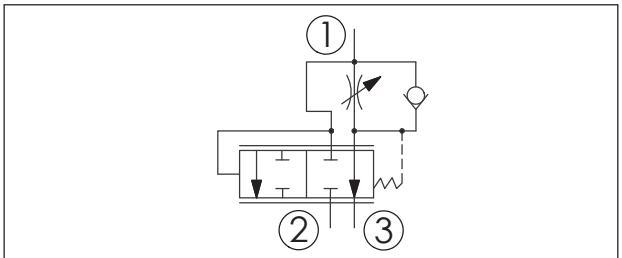
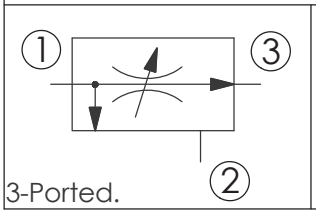
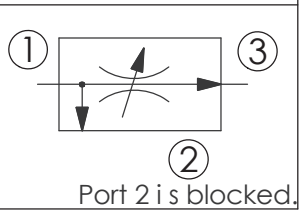




3-Ported.



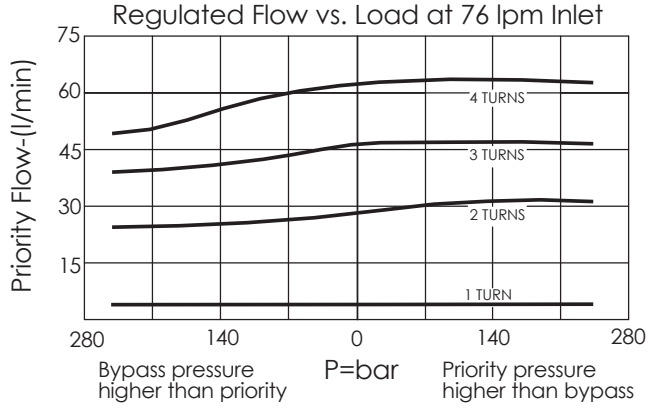
Port 2 i s blocked.

TECHNICAL DATA

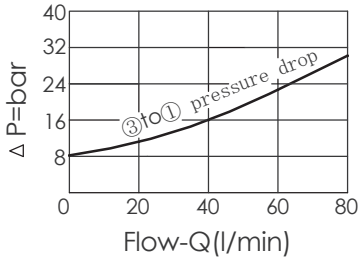
Max. pressure:	240	bar
Rated Input Flow:	3-ported : 76 LPM nominal 114 LPM max.	
Cavity-Tooling:	12W-3	
Installation torque:	45-55	Nm
Weight:	0.26	kg

Note: It can be used as a priority-type flow regulator or a restrictive-type 2-way flow regulator when the bypass port (port 2) is blocked.

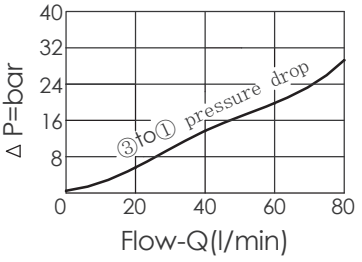
Port ① to Port③ △P=14 bar



when ①to③ = 10 LPM

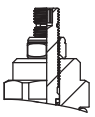
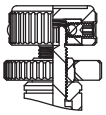
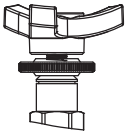


when ①to③ = 50 LPM



X	PRIORITY FLOW RANGE	
36	Flow Rate : 3-ported regulated flow 0-68 LPM 2-ported regulated flow 0-45 LPM	

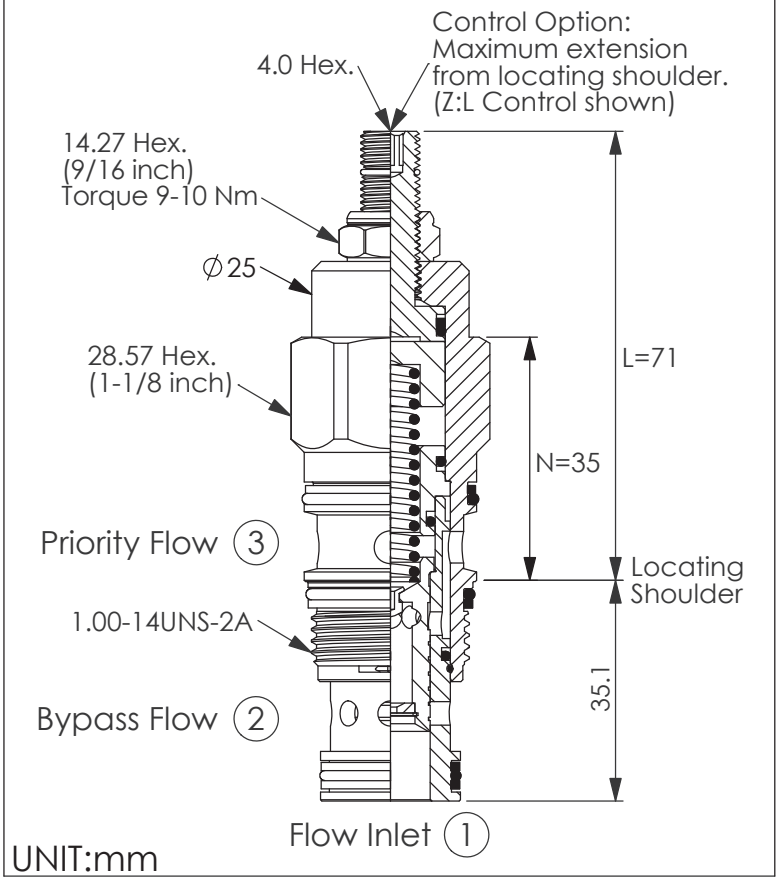
Y	SPRING RANGE	
N	(Standard)	

Z	OPTIONS		
L	Leakproof hex. socket screw.		
LP	Leakproof hex. socket screw. With stainless steel external metal components		
K	Handknob with Lock Knob.		
T	Three-winged Handknob Kit.		

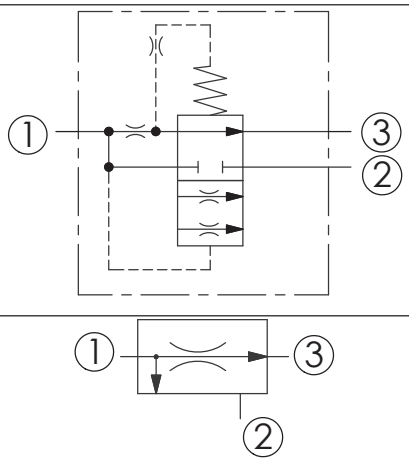
PRIORITY FLOW CONTROL VALVE

(Fixed Orifice, Bypass/Restrictive, Pressure Compensated)

Ordering Code:	**FR-2A-X-Y-Z**



UNIT:mm

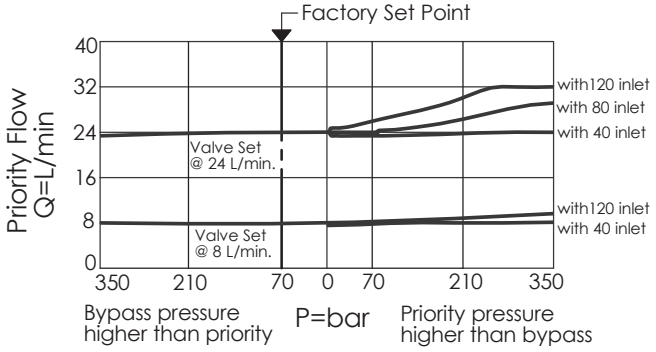


TECHNICAL DATA

Max. pressure:	350	bar
Maximum Inlet Flow:	120	l/min
Priority Flow Ranges:	0.4-50	l/min
Cavity-Tooling:	2A-3	
Installation torque:	60-70	Nm
Weight:	0.20 (Z:N) 0.27 (Z:L)	kg

- Pressure at the bypass port(port 2) may exceed pressure at the priority port (port 3)
- Both priority and bypass flow are usable up to the system operating pressure
- Bypass flow is not available until priority flow requirements are satisfied
- Blocking priority flow will also block bypass flow

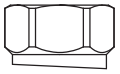
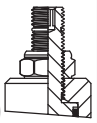
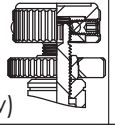
Typical Performance



Y	Priority Flow (customer must specity flow)	
0010	Example: 1.0 LPM	
0075	Example: 7.5 LPM	
0120	Example: 12.0 LPM	
0150	Example: 15.0 LPM	
0250	Example: 25.0 LPM	
0300	Example: 30.0 LPM	
0400	Example: 40.0 LPM	
0420	Example: 42.0 LPM	
0450	Example: 45.0 LPM	
0600	Example: 60.0 LPM	

- Customer must specify a flow rating
- Factory set flow ratings are within +/- 10% of the requested setting

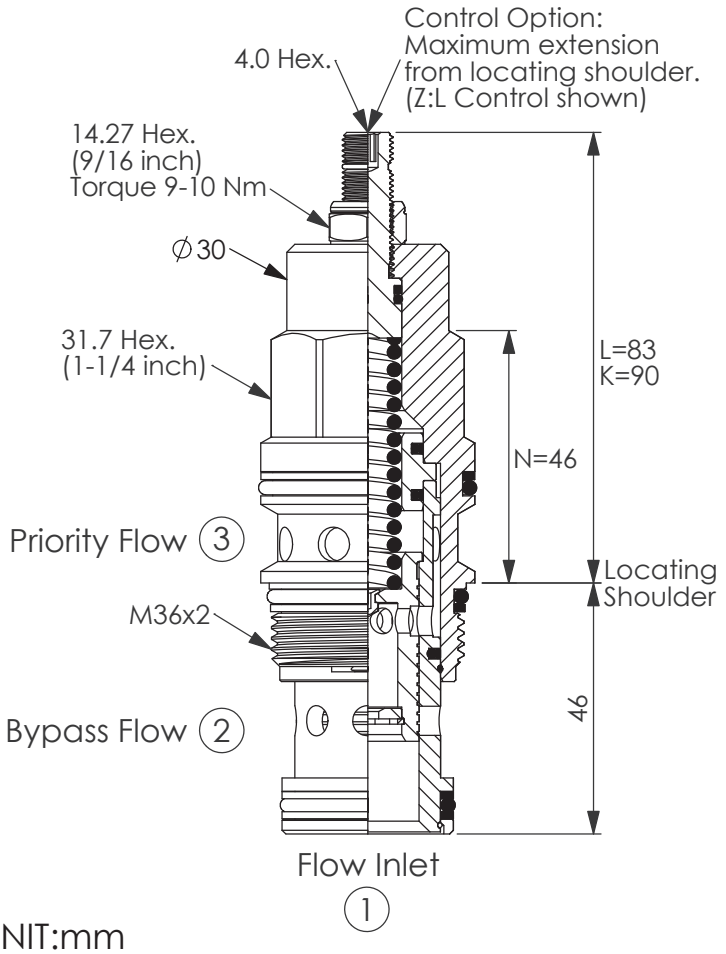
X	OPERATION	
3F	Fixed orifice, bypass/restrictive, pressure compensated	

Z	OPTIONS	
N	Non-adjustable (Factory set at customer specified flow) 	
L	Leakproof hex. socket screw. (Tuning Adjustment ±25% of customer specified flow) 	
K	Handknob with Lock Konb. (Tuning Adjustment ±25% of customer specified flow) 	

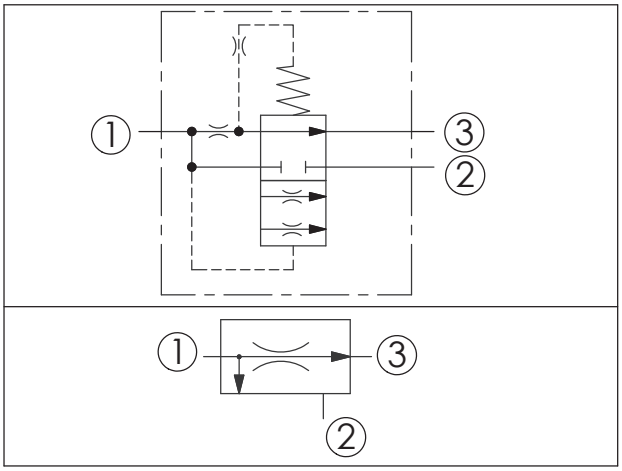
PRIORITY FLOW CONTROL VALVE

(Fixed Orifice, Bypass/Restrictive, Pressure Compensated)

Ordering Code:	**FR-17A-X-Y-Z**



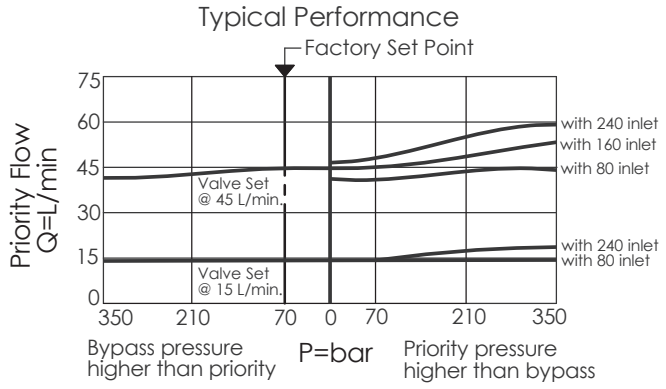
UNIT:mm



TECHNICAL DATA

Max. pressure:	350	bar
Maximum Inlet Flow:	240	l/min
Priority Flow Ranges:	0.8-95	l/min
Cavity-Tooling:	17A-3	
Installation torque:	90-100	Nm
Weight:	0.57 (Z:L)	kg

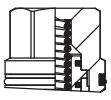
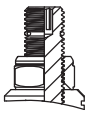
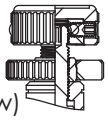
- Pressure at the bypass port(port 2) may exceed pressure at the priority port (port 3)
- Both priority and bypass flow are usable up to the system operating pressure
- Bypass flow is not available until priority flow requirements are satisfied
- Blocking priority flow will also block bypass flow



X	OPERATION	
3F	Fixed orifice, bypass/restrictive, pressure compensated	

Y	Priority Flow (customer must specity flow)		
0040	Example:	4.0 LPM	
0076	Example:	7.6 LPM	
0300	Example:	30.0 LPM	
0450	Example:	45.0 LPM	

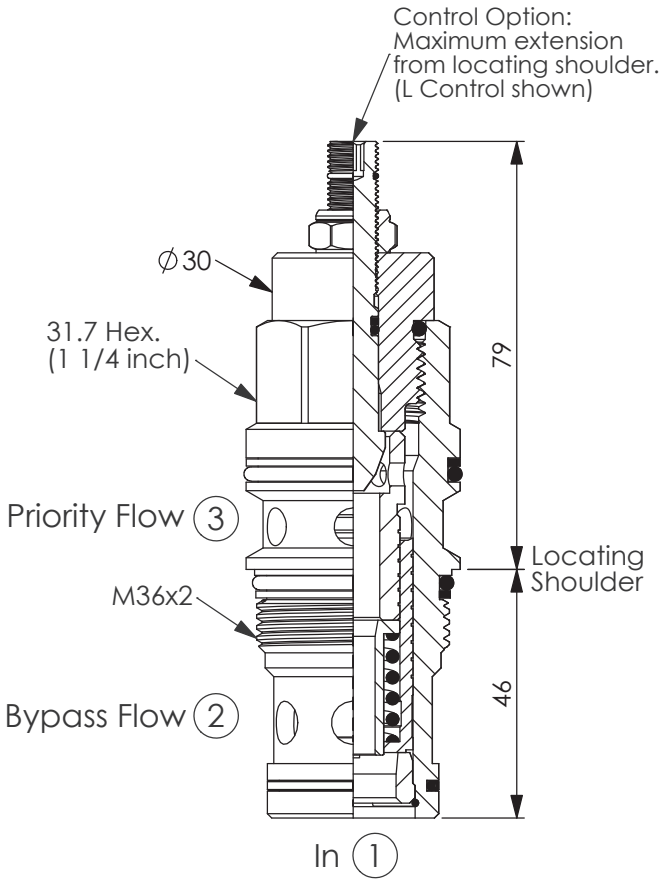
- Customer must specify a flow rating
- Factory set flow ratings are within +/- 10% of the requested setting

Z	OPTIONS	
N	Non-adjustable (Factory set at customer specified flow) 	
L	Leakproof hex. socket screw. (Tuning Adjustment ±25% of customer specified flow) 	
K	Handknob with Lock Knob. (Tuning Adjustment ±25% of customer specified flow) 	

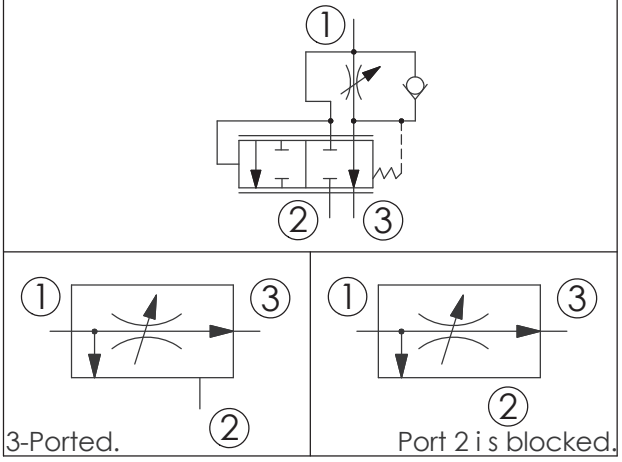
PRIORITY FLOW CONTROL VALVE

(Bypass/Pressure compensated)

Ordering Code: **FR-17A-X-Y-Z**



UNIT:mm



TECHNICAL DATA

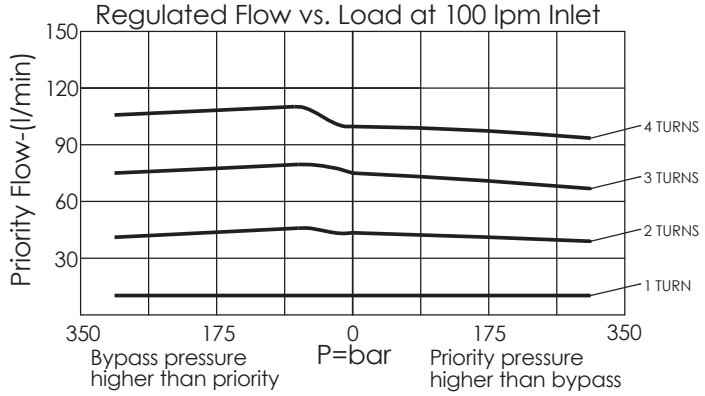
Max. pressure:	350	bar
Rated Input Flow:	3-ported : 100 lpm nominal 150 lpm max.	
(*If you need higher inlet flow. Please contact us.)		
Priority Flow Ranges:	1~100	l/min
Cavity-Tooling:	17A-3	
Installation torque:	200-215	Nm
Weight:	0.57	kg

Note: It can be used as a priority-type flow regulator or a restrictive-type 2-way flow regulator when the bypass port (port 2) is blocked.

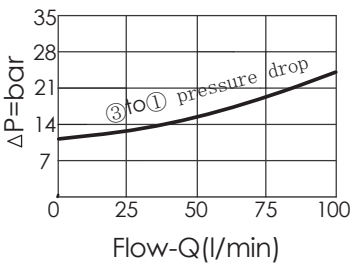
Port ① to Port ③ △P=14 bar

3-Ported

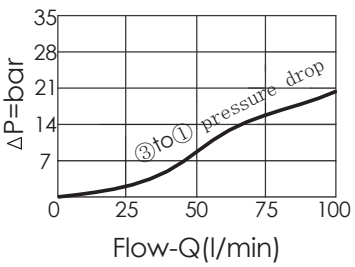
Regulated Flow vs. Load at 100 lpm Inlet



when ①to③ = 10 LPM

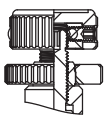
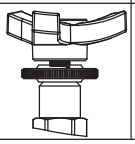


when ①to③ = 80 LPM



X	OPERATION	
3A	3 Port, Reverse Flow, Bypass/Restrictive	

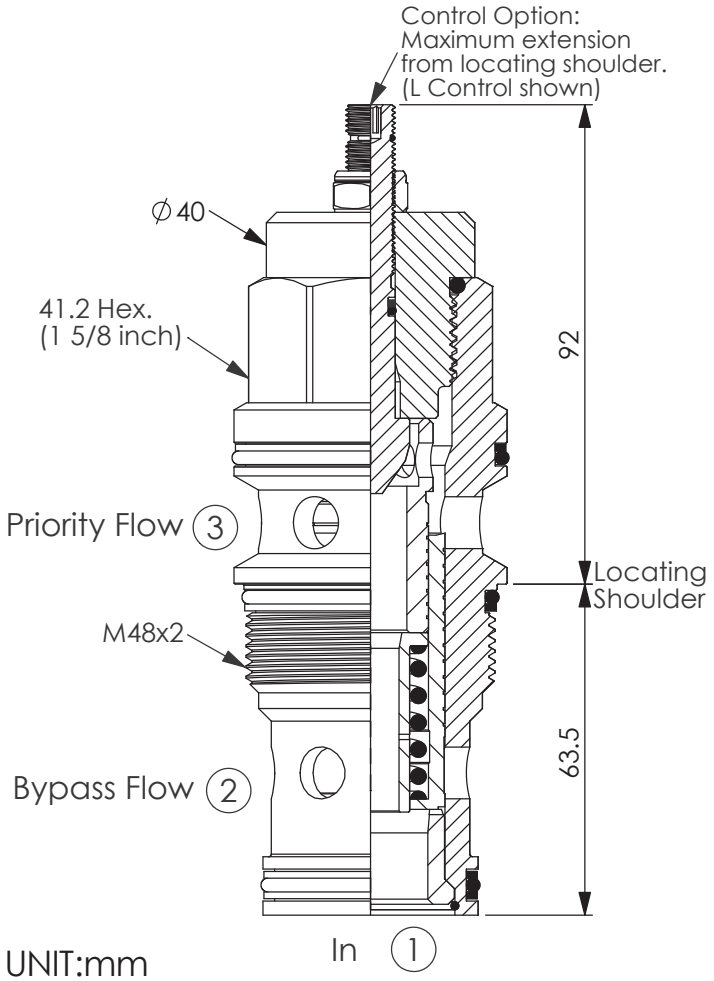
Y	PRIORITY FLOW	
	ADJUSTMENT RANGES	
1000	1~100 LPM	

Z	OPTIONS		
L	Leakproof hex. socket screw.		
K	Handknob with Lock Knob.		
T	Three-winged Handknob Kit.		

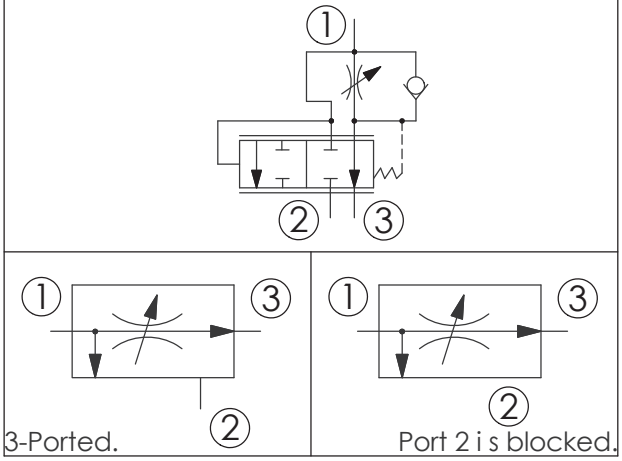
PRIORITY FLOW CONTROL VALVE

(Bypass/Pressure compensated)

Ordering Code: **FR-19A-X-Y-Z**



UNIT:mm



TECHNICAL DATA

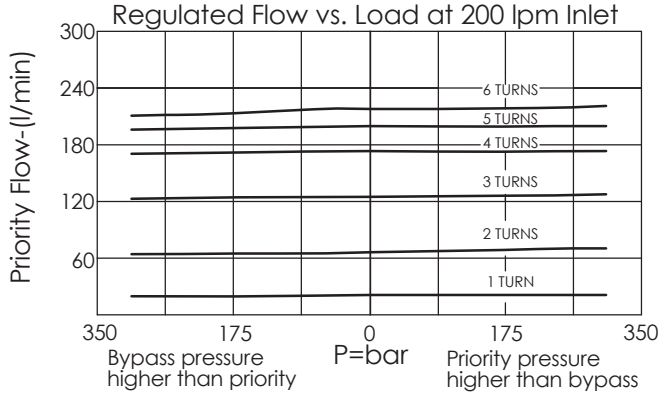
Max. pressure:	350	bar
Rated Input Flow:	3-ported : 200 lpm nominal 300 lpm max.	
(*If you need higher inlet flow. Please contact us.)		
Priority Flow Ranges:	1~200	l/min
Cavity-Tooling:	19A-3	
Installation torque:	465-500	Nm
Weight:	1.27	kg

Note: It can be used as a priority-type flow regulator or a restrictive-type 2-way flow regulator when the bypass port (port 2) is blocked.

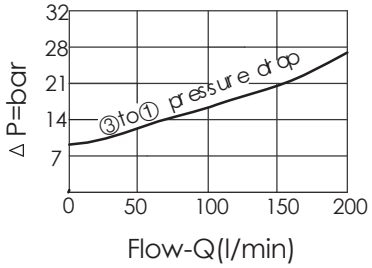
Port ① to Port ③ △P=14 bar

3-Ported

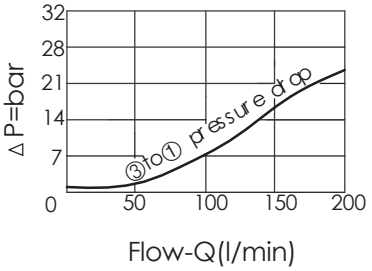
Regulated Flow vs. Load at 200 lpm Inlet



when ①to③ = 10 LPM

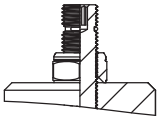
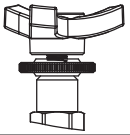


when ①to③ = 160 LPM



X	OPERATION	
3A	3 Port, Reverse Flow, Bypass/Restrictive	

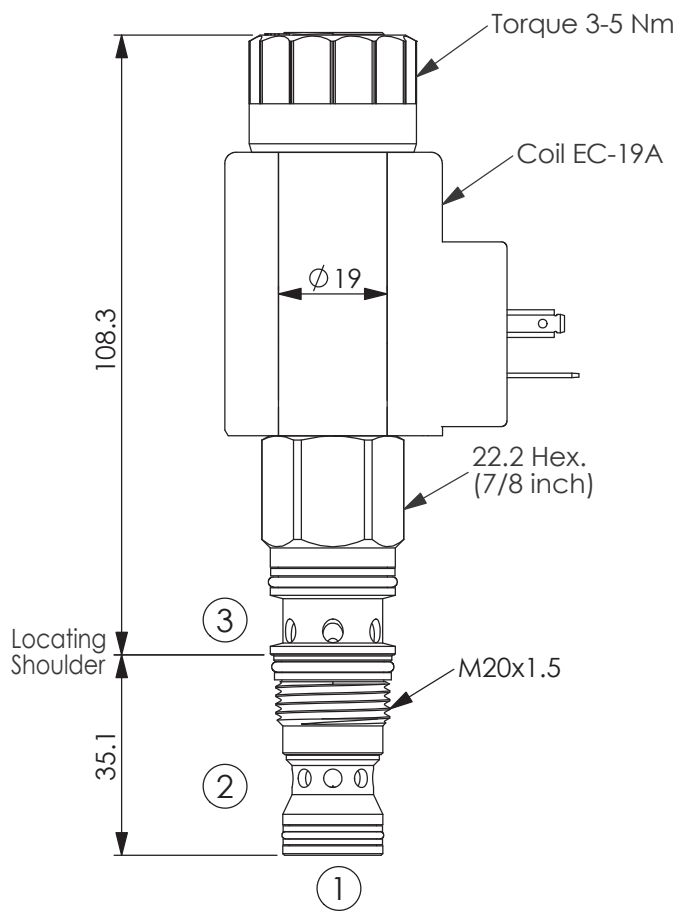
Y	PRIORITY FLOW	
	ADJUSTMENT RANGES	
2000	1~200 LPM	

Z	OPTIONS		
L	Leakproof hex. socket screw.		
T	Three-winged Handknob Kit.		

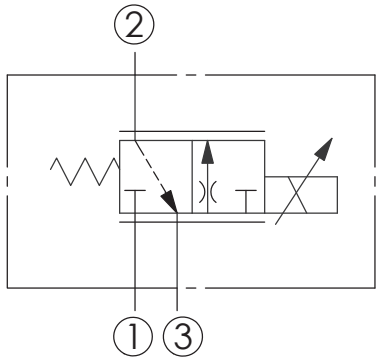
FLOW CONTROL VALVE

(Electro-Proportional, 3-way Flow Control Meter In Throttle)

Ordering Code: **PFA-11A-X-Y-Z**



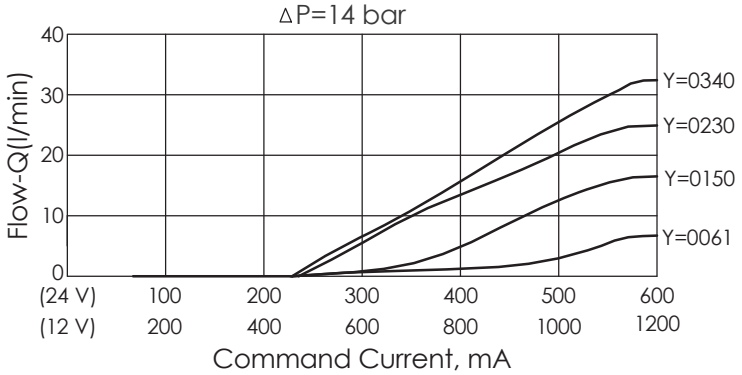
UNIT:mm



TECHNICAL DATA		
Max.Operating pressure: 350		bar
Rated flow:	34	l/min
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Linearity (with dither)		<2%
Repeatibility (with dither)		<2%
Hysteresis (with dither)		<4%
Hysteresis with DC input		<8%
Deadband, nominal (as a percentage of input)		30%
The transition between positions is closed.		
Weight:(with Coil)	0.57	kg
(without Coil)	0.29	kg

Typical Metering Preformance (①→②)

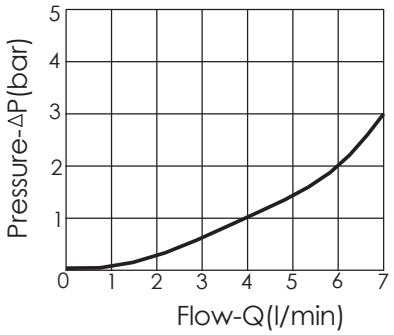
ΔP=14 bar



If you need more information
Please contact our sales department

Note: Flow in the ②to③direction is limited to about 5 LPM

Flow ②→③



X	OPERATION	
3D	3 Ports、22 Watt. Coil ∅19 mm tube	

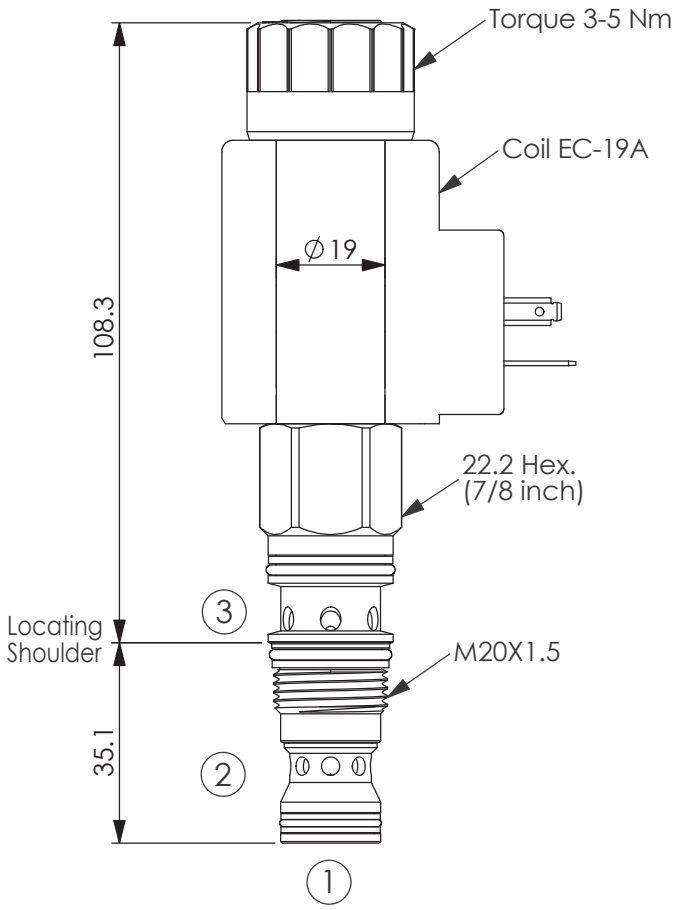
Y	FLOW	
	NOMINAL CAPACITY	
0061	0.4~6.1 LPM	
0150	0.4~15 LPM	
0230	0.4~23 LPM	
0340	0.4~34 LPM	

Z	OPTIONS		
N	Non-adjustable		
P	Push Style Manual Override		

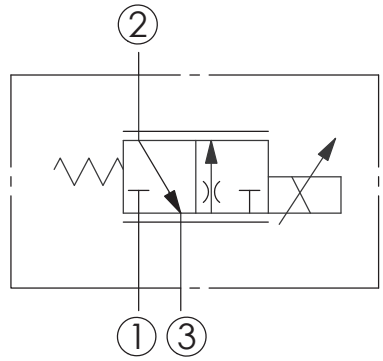
FLOW CONTROL VALVE

(Electro-Proportional, 3-way Flow Control Meter In Throttle)

Ordering Code: **PFB-11A-X-Y-Z**



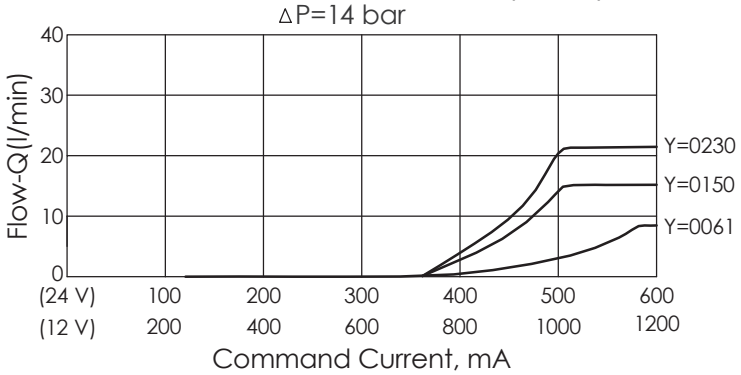
UNIT:mm



TECHNICAL DATA		
Max.Operating pressure: 350		bar
Rated flow:	23	l/min
Cavity-Tooling:	11A-3	
Installation torque:	40-50	Nm
Linearity (with dither)		<2%
Repeatibility (with dither)		<2%
Hysteresis (with dither)		<4%
Hysteresis with DC input		<8%
Deadband, nominal (as a percentage of input)		60%
The transition between positions is closed.		
Weight:(with Coil)	0.57	kg
(without Coil)	0.29	kg

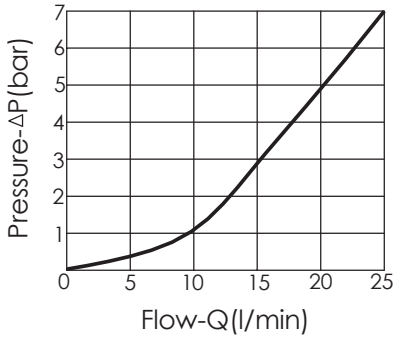
Typical Metering Preformance (①→②)

ΔP=14 bar



If you need more information
Please contact our sales department

Flow ②→③



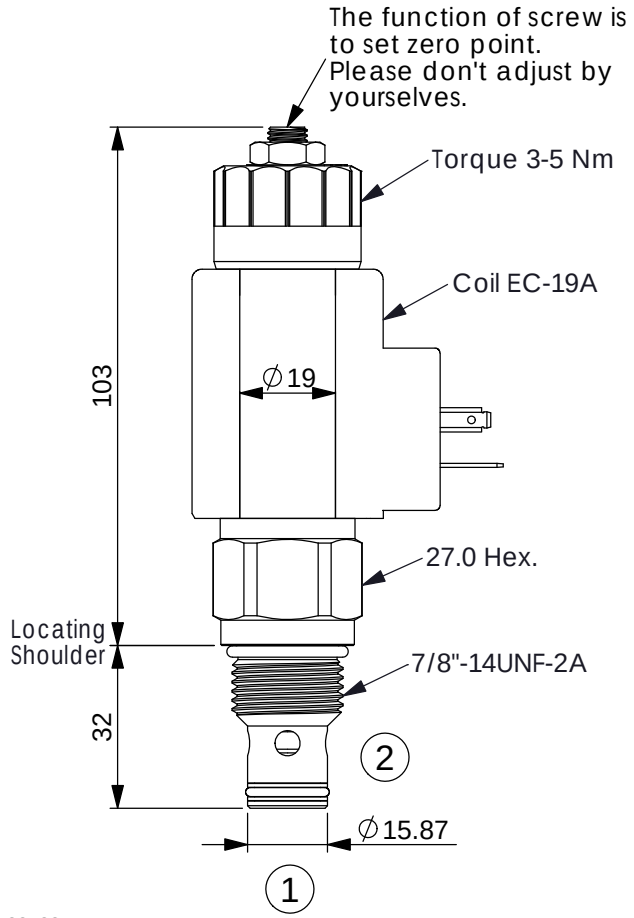
X	OPERATION	
3D	3 Ports、22 Watt. Coil ∅19 mm tube	

Y	FLOW	
	NOMINAL CAPACITY	
0061	0.4~6.1 LPM	
0150	0.4~15 LPM	
0230	0.4~23 LPM	
0340	0.4~34 LPM	

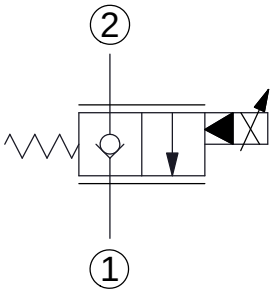
Z	OPTIONS	
N	Non-adjustable	

FLOW CONTROL VALVE
(Electro-Proportional, Normally Closed)

Ordering Code: **PEP-10W-X-Y-N-Z**



UNIT:mm



TECHNICAL DATA

Max.Operating pressure: 260		bar
Rated flow: (Refer To Performance Chart)	55	l/min
Cavity-Tooling:	10W-2	
Installation torque:	45-50	Nm
Weight:(with Coil)	0.30	kg
(without Coil)	0.54	kg

Coils must be ordered separately

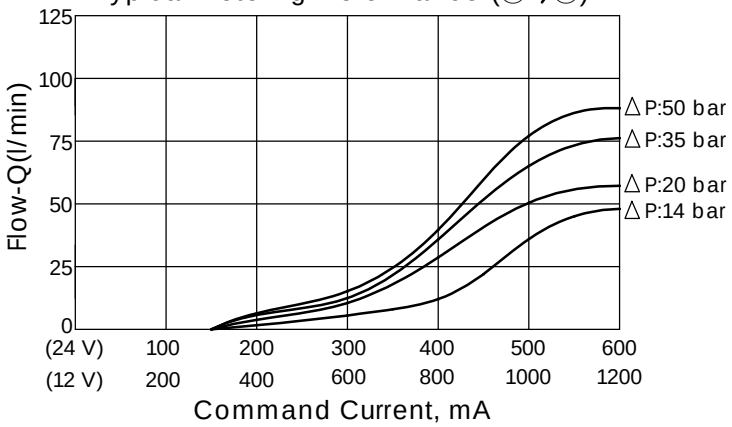
(6 drops/minute) max.at 260 bar

Contionous Duty Coils:Current(A)

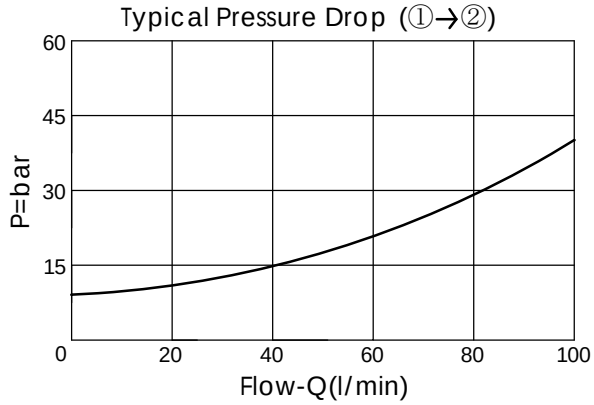
Voltage(V)	Cold Coil	Hot Coil
12	1.8	0.8
24	0.9	0.4

Performance Chart

Typical Metering Preformance (②→①)



Typical Pressure Drop (①→②)



X	STRUCTURE	
2D	2 Ports、22 Watt. Coil ∅19 mm tube	

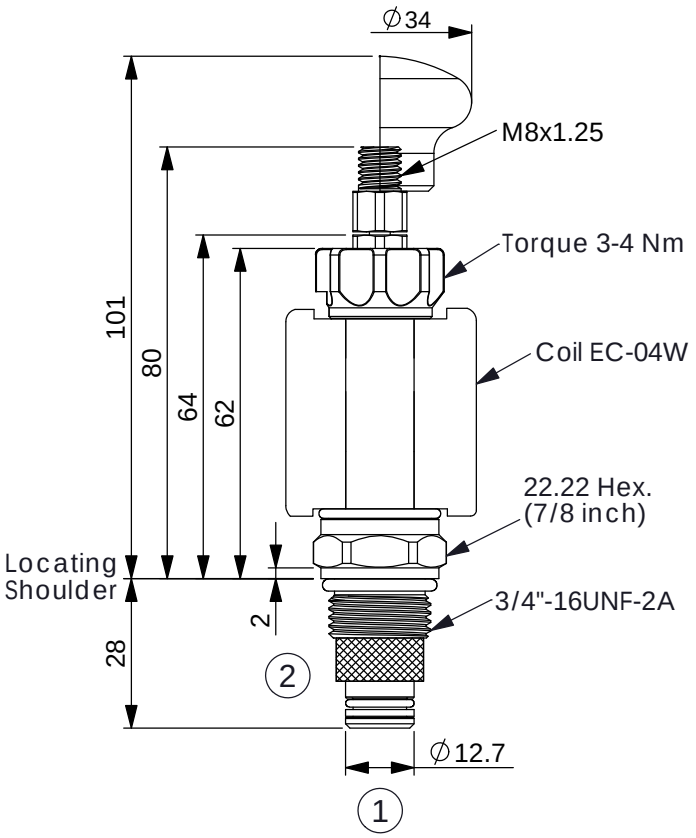
Y	OPERATION	
01	Normally-Closed No Reverse Flow Energized	

Z	FLOW	
	NOMINAL CAPACITY	
0550	0 - 55 LPM	

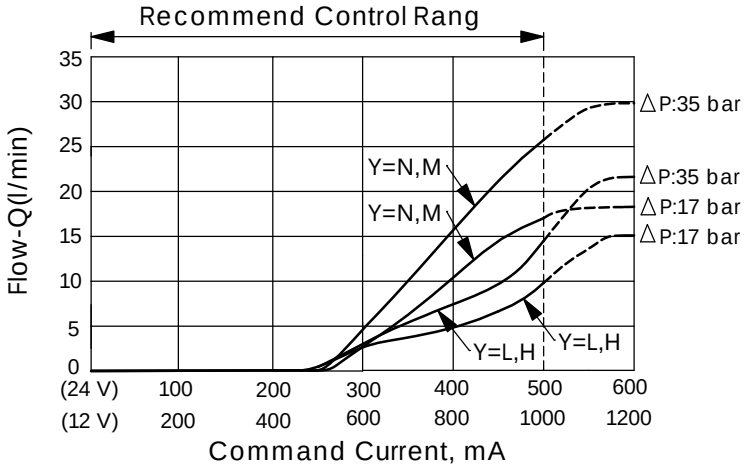
FLOW CONTROL VALVE

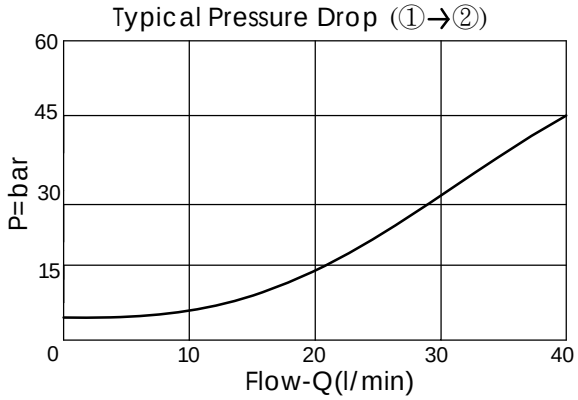
(Electro-Proportional, Normally Closed With Cable)

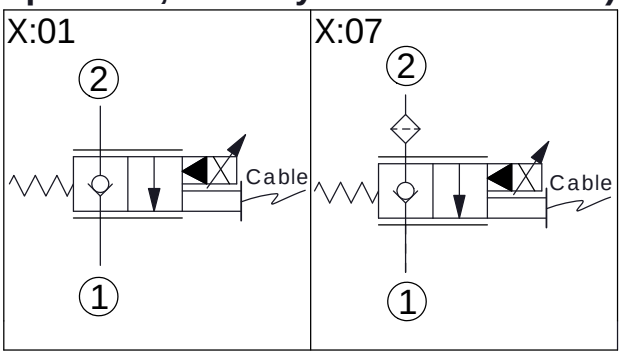
Ordering Code: **PEP-08W-2A-X-Y-Z**



UNIT:mm







TECHNICAL DATA

Max.Operating pressure: 250		bar
Rated flow:	22	l/min
Cavity-Tooling:	08W-2	
Installation torque:	25-35	Nm
Weight:(with Coil)	0.37	kg
(without Coil)	0.15	kg

Coils must be ordered separately

Internal Leakage: 0.15 cc/minute (5 drops/minute) max. at 250 bar

Contionous Duty Coils:Current(A)

Voltage(V)	Cold Coil	Hot Coil
12	1.66	1.06
24	0.88	0.53

X	STRUCTURE	
01	Normally-Closed No Reverse Flow Energized	
07	Normally-Closed With Filter No Reverse Flow Energized	

Y	OPTIONS	
N	Non-adjustable	
M	Manual Override	
L	Pull Style (Cable Operated)	
H	Pull Style (Hand Operated)	

Z	FLOW	
	NOMINAL CAPACITY	
0220	0 - 22 LPM	

HYDROPRESS®
hydraulika siłowa

CENTRALA ELBLĄG

Ul. Rawska 19B
82-300 Elbląg

tel. /+48/ 55 625 51 00

fax /+48/ 55 625 51 01

Dział Handlowy

tel. /+48/ 55 625 51 51

elblag@hydropress.pl

www.hydropress.pl

ODDZIAŁ GDAŃSK
tel. /+48/ 55 625 51 21
fax /+48/ 55 625 51 22

ODDZIAŁ RUMIA
tel. /+48/ 58 679 34 15
fax /+48/ 55 625 51 25

ODDZIAŁ TYCHY
tel. /+48/ 32 787 52 88
fax /+48/ 55 625 51 38

ODDZIAŁ OLSZTYN
tel. /+48/ 89 532 01 05
fax /+48/ 89 715 21 42

ODDZIAŁ WARSZAWA
tel. /+48/ 22 468 86 97
fax /+48/ 55 625 51 32

BIURO WE WROCŁAWIU
tel. /+48/ 782 838 000
fax /+48/ 55 625 51 35

BIURO W KIELCACH
tel. /+48/ 885 995 501
fax /+48/ 55 625 51 01

BIURO W KRAKOWIE
tel. /+48/ 885 995 019
fax /+48/ 55 625 51 01

BIURO W OPOLU
tel. /+48/ 885 995 011
fax /+48/ 55 625 51 01

BIURO W BYDGOSZCZY
tel. /+48/ 790 222 771
fax /+48/ 55 625 51 01

BIURO W BIAŁYMSTOKU
tel. /+48/ 89 532 01 05
fax /+48/ 89 715 21 42

BIURO W ŁODZI
tel. /+48/ 609 221 421
fax /+48/ 89 715 21 42