Direct Operated Precision Regulator/Modular Style
ARP20 to ARP40

Direct Operated Precision Regulator with Backflow Function/Modular Style
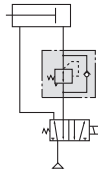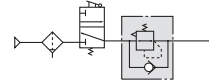# *ARP20K to ARP40K*

JIS symbol

Regulator   Regulator with backflow function

• **With the backflow function it incorporates a mechanism to exhaust the air pressure in the outlet side reliably and quickly.**

Example 1)
When the pressure in the rear and the front of the cylinder differs:

Example 2)
When the air supply is cut off and releasing the inlet pressure to the atmosphere, the residual pressure release of the outlet side can be ensured for a safety purpose.

How to Order

ARP **30** **K** – ☐ **03** **BE** – ☐
❶ ❷ ❸ ❹ ❺ ❻

• Option / Semi-standard: Select one each for **a** to **f**.
• Option / Semi-standard symbol: Enter them alphanumerically.
Example) ARP30K-03BE-<u>1RY</u>

		Symbol	Description	❶ Body size		
				20	**30**	**40**
❷	With backflow function	**Nil**	Without backflow function	●	●	●
		K	With backflow function	●	●	●
		+				
❸	Thread type	**Nil**	Rc	●	●	●
		N	NPT	●	●	●
		F	G	●	●	●
		+				
❹	Port size	**01**	1/8	●	—	—
		02	1/4	●	●	●
		03	3/8	—	●	●
		04	1/2	—	—	●
		+				
❺ Option Note 1)	**a** Mounting	**Nil**	Without mounting option	●	●	●
		B Note 2)	With bracket	●	●	●
		H	With set nut (For panel mount)	●	●	●
		+				
	b Pressure gauge	**Nil**	Without pressure gauge	●	●	●
		E	Square embedded type pressure gauge (With limit indicator)	●	●	●
		G	Round type pressure gauge (With limit indicator)	●	●	●
	Digital pressure switch	**E1** Note 3)	Output: NPN output / Electrical entry: Wiring bottom entry	●	●	●
		E2 Note 3)	Output: NPN output / Electrical entry: Wiring top entry	●	●	●
		E3 Note 3)	Output: PNP output / Electrical entry: Wiring bottom entry	●	●	●
		E4 Note 3)	Output: PNP output / Electrical entry: Wiring top entry	●	●	●

SMC

ARP20/ARP20K　**ARP30/ARP30K**　**ARP40/ARP40K**

			Symbol	Description	❶		
					Body size		
					20	**30**	**40**
❻ Semi-standard	c	Set pressure	**Nil**	0.005 to 0.4 MPa setting	●	●	●
			1 Note 4)	0.005 to 0.2 MPa setting	●	●	●
			3 Note 4)	0.008 to 0.6 MPa setting	●	●	●
			+				
	d	Flow direction	**Nil**	Flow direction: Left to right	●	●	●
			R	Flow direction: Right to left	●	●	●
			+				
	e	Knob	**Nil**	Downward facing knob	●	●	●
			Y	Upward facing knob	●	●	●
			+				
	f	Pressure unit	**Nil**	Name plate and pressure gauge in imperial units: MPa	●	●	●
			Z Note 5)	Name plate and pressure gauge in imperial units: psi	○ Note 7)	○ Note 7)	○ Note 7)
			ZA Note 6)	Digital pressure switch: With unit conversion function	△ Note 8)	△ Note 8)	△ Note 8)

Note 1) Options B, G, H are shipped together, (but not assembled).
Note 2) Set nut is included for bracket.
Note 3) When choosing with H (panel mount), the installation space for lead wires will not be secured. In this case, select "wiring top entry" for the lead wire entry. (Select "wiring bottom entry" when the semi-standard Y is chosen simultaneously.)
Note 4) The only difference from the standard specifications is the pressure regulator spring.
It does not restrict the setting of 0.2 MPa/0.6 MPa or more.
When the pressure gauge is attached, a 0.2 MPa pressure gauge for 0.2 MPa setting will be fitted, and a 0.7 MPa pressure gauge for 0.6 MPa setting will be fitted.
When a digital pressure switch is attached, the pressure display is fixed to 1.0 MPa.

Note 5) For thread type: NPT. This product is for overseas use only according to the new Measurement Law. (The SI unit type is provided for use in Japan.) The digital pressure switch will be equipped with the unit conversion function, setting to psi initially.
Note 6) For options: E1, E2, E3, E4. This product is for overseas use only according to the new Measurement Law. (The SI unit is provided for use in Japan.)
Note 7) ○: For thread type: NPT only
Note 8) △: Combination available for options: E1, E2, E3, E4.

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Series *ARP20/30/40*

Specifications

Model			ARP20(K)	ARP30(K)	ARP40(K)
Port size			1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2
Fluid			Air		
Proof pressure			1.2 MPa		
Max. operating pressure			0.7 MPa		
Set pressure range [Note 1)]	For 0.4 MPa setting	Ex.) ARP30-02BG	0.005 to 0.4 MPa		
	For 0.2 MPa setting	Ex.) ARP30-02BG-1	0.005 to 0.2 MPa		
	For 0.6 MPa setting	Ex.) ARP30-02BG-3	0.008 to 0.6 MPa		
Sensitivity			Within 0.2% F.S.		
Repeatability [Note 2)]			Within ±1% F.S. (or ±3 kPa)		
Air consumption	For 0.4 MPa setting	Ex.) ARP30-02BG	1 ℓ/min (ANR) or less (at P2 = 0.4 MPa)		
	For 0.2 MPa setting	Ex.) ARP30-02BG-1	0.6 ℓ/min (ANR) or less (at P2 = 0.2 MPa)		
	For 0.6 MPa setting	Ex.) ARP30-02BG-3	1.4 ℓ/min (ANR) or less (at P2 = 0.6 MPa)		
Pressure port size [Note 3)]			1/8	1/8	1/4
Ambient and fluid temperature			−5 to 60°C (No freezing)		
	With digital pressure switch	Ex.) ARP30-02BE1	−5 to 50°C (No freezing)		
Construction			Bleed type		
Weight (kg) [Note 4)]			0.2	0.3	0.5

Note 1) When a product with backflow function (ARP20K to 40K) is chosen, set the inlet pressure 0.05 MPa or higher than the set pressure.
Note 2) For the type set to 0.2 MPa only, repeatability will be within ±3 kPa.
Note 3) Port thread is not provided for products with square embedded-type pressure gauges.
Note 4) Weight shown is for product without any options.

Optional Parts

Standard

Model			ARP20(K)	ARP30(K)	ARP40(K)
Bracket assembly Note 1)			ARP20P-270AS	ARP30P-270AS	ARP40P-270AS
Set nut			ARP20P-260S	ARP30P-260S	ARP40P-260S
Pressure gauge	0.4 MPa	Round type Note 2)	G36-4-□01		G46-4-□02
		Square embedded type Note 3)	GC3-4AS [GC3P-010AS (Pressure gauge cover only)]		
	0.2 MPa	Round type Note 2)	G36-2-□01		G46-2-□02
		Square embedded type Note 3)	GC3-2AS [GC3P-010AS (Pressure gauge cover only)]		
	0.7 MPa	Round type Note 2)	G36-7-□01		G46-7-□02
		Square embedded type Note 3)	GC3-7AS [GC3P-010AS (Pressure gauge cover only)]		
	Digital type Note 4)	NPN output / Wiring bottom entry	ISE35-N-25-MLA [ISE35-N-25-M (Switch body only)]		
		NPN output / Wiring top entry	ISE35-R-25-MLA [ISE35-R-25-M (Switch body only)]		
		PNP output / Wiring bottom entry	ISE35-N-65-MLA [ISE35-N-65-M (Switch body only)]		
		PNP output / Wiring top entry	ISE35-R-65-MLA [ISE35-R-65-M (Switch body only)]		

Clean Room Compliant (10-)

Model			10-ARP20(K)	10-ARP30(K)	10-ARP40(K)
Bracket assembly Note 1)			ARP20P-270AS	ARP30P-270AS	ARP40P-270AS
Set nut			ARP20P-260S	ARP30P-260S	ARP40P-260S
Pressure gauge	0.4 MPa	Round type Note 2)	G49-4-□01		G49-4-□02
	0.2 MPa		G49-2-□01		G49-2-□02
	0.7 MPa		G49-7-□01		G49-7-□02
	Digital type Note 4)	NPN output / Wiring bottom entry	ISE35-N-25-MLA [ISE35-N-25-M (Switch body only)]		
		NPN output / Wiring top entry	ISE35-R-25-MLA [ISE35-R-25-M (Switch body only)]		
		PNP output / Wiring bottom entry	ISE35-N-65-MLA [ISE35-N-65-M (Switch body only)]		
		PNP output / Wiring top entry	ISE35-R-65-MLA [ISE35-R-65-M (Switch body only)]		

Copper-free, Fluorine-free (20-)

Model			20-ARP20(K)	20-ARP30(K)	20-ARP40(K)
Bracket assembly Note 1)			ARP20P-270AS	ARP30P-270AS	ARP40P-270AS
Set nut			ARP20P-260S	ARP30P-260S	ARP40P-260S
Pressure gauge	0.4 MPa	Round type Note 2)	G46-4-□01-X3		G46-4-□02-X3
	0.2 MPa		G46-2-□01-X3		G46-2-□02-X3
	0.7 MPa		G46-7-□01-X3		G46-7-□02-X3

Clean Room Compliant, Copper-free, Fluorine-free (21-)

Model			21-ARP20(K)	21-ARP30(K)	21-ARP40(K)
Bracket assembly Note 1)			ARP20P-270AS	ARP30P-270AS	ARP40P-270AS
Set nut			ARP20P-260S	ARP30P-260S	ARP40P-260S
Pressure gauge	0.4 MPa	Round type Note 2)	G49-4-□01MS-X3		G49-4-□02MS-X3
	0.2 MPa		G49-2-□01MS-X3		G49-2-□02MS-X3
	0.7 MPa		G49-7-□01MS-X3		G49-7-□02MS-X3

Note 1) Assembly includes a bracket and set nuts.
Note 2) □ in part numbers for a round-type pressure gauge indicates a type of connection thread. No indication is necessary for R; however, indicate N for NPT. The G thread is unavailable. If it is required, select the R thread type (Nil) instead. Please contact SMC regarding the connection thread NPT and pressure gauge supply for psi unit specifications.
Note 3) Includes one O-ring and 2 mounting screws. [   ]: Pressure gauge cover only.
Note 4) Lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), and mounting screws (2 pcs.) are included. [   ]: Switch body only.
For how to order the digital pressure switch, refer to the following specific page for the digital pressure switch.