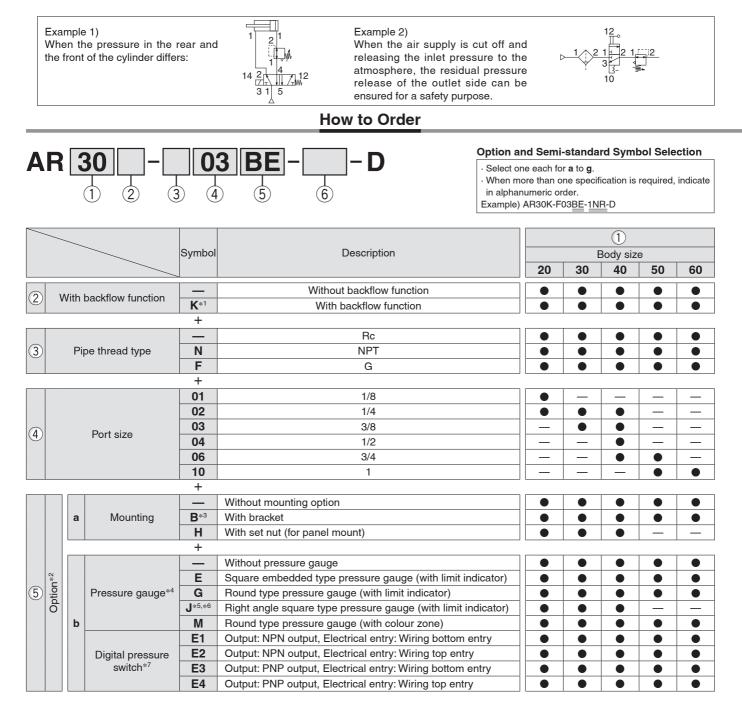
Modular Type Regulator **AR Series**

Regulator AR Series	Model	Port size	Set pressure	Options
	AR20(K)-D	1/8, 1/4		Bracket Set nut
	AR30(K)-D	1/4, 3/8		(for panel mount) Square embedded type pressure gauge
	AR40(K)-D	1/4, 3/8, 1/2	0.05 to 0.85 MPa	Right angle square type pressure gauge
	AR40(K)-06-D	3/4	0.02 to 0.2 MPa	Digital pressure switch Round type pressure gauge
	AR50(K)-D	3/4, 1		Bracket Square embedded type pressure gauge
p. 93 to 103	AR60(K)-D	1		Digital pressure switch Round type pressure gauge



\cdot Models with the backflow function include a mechanism which allows for the air pressure in the outlet side to be released to the inlet side.





/	<u> </u>	<u> </u>		Symbol	Description			① Body size	2	
				C y moor		20	30	40	50	60
					0.05 to 0.85 MPa setting					
		с	Set pressure*8	1	0.02 to 0.2 MPa setting	•		•		
			•	+			•			
		d	Exhaust	—	Relieving type			•	•	
		a	mechanism	Ν	Non-relieving type			•	•	
	ard			+						
	Semi-standard	е	Flow direction	—	Flow direction: Left to right			•	•	
6	sta	e	TIOW direction	R	Flow direction: Right to left			•	•	
	m;			+						
	Se	f	Knob	—	Downward					
			KIIOD	Y	Upward					
				+		-				
				—	Unit on product label: MPa, Pressure gauge in SI units: MPa					
		g	Unit	Z *9	Unit on product label: psi, Pressure gauge: MPa/psi dual scale	○*11	○*11	○*11	○*11	○*11
				ZA *10	Digital pressure switch: With unit selection function	\triangle^{*12}	\triangle^{*12}	\triangle^{*12}	\triangle^{*12}	\triangle^{*12}

*1 Set the inlet pressure to at least 0.05 MPa higher than the set pressure.

*2 Options B, G, H, and M are not assembled and supplied loose at the time of shipment.

*3 The assembly consists of a bracket and set nuts (applicable to the AR20(K)-D to AR40(K)-D). For the AR50(K)-D and AR60(K)-D, the assembly consists of 2 types of the bracket and 2 mounting screws.

*4 When the pressure gauge is attached, a 1.0 MPa pressure gauge will be fitted for standard (0.85 MPa) type. 0.4 MPa pressure gauge for 0.2 MPa type.

*5 Cannot be selected for the type with a set nut (option "H")

*6 The direction the pressure gauge scale plate faces is from the knob side.

*7 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 electrical entry. (Select "wiring bottom entry" when the semi-standard Y is chosen simultaneously.)

*8 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range.

*9 For the pipe thread type: NPT

This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round type pressure gauge (with colour zone). Available by request for special. The digital pressure switch will be equipped with the unit selection function, setting to psi initially. *10 For options: E1, E2, E3, E4

This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)

*11 O: For the pipe thread type: NPT only



AR20-D to AR60-D Series AR20K-D to AR60K-D Series

Standard Specifications

Model	AR20(K)-D	AR30(K)-D	AR40(K)-D	AR40(K)-06-D	AR50(K)-D	AR60(K)-D
Port size	1/8, 1/4	1/4, 3/8	1/4, 3/8, 1/2	3/4	3/4, 1	1
Pressure gauge port size*1			1.	/8		
Fluid			A	ir		
Ambient and fluid temperatures*2			–5 to 60 °C	(No freezing)		
Proof pressure			1.5	MPa		
Max. operating pressure			1.0	MPa		
Set pressure range			0.05 to 0).85 MPa		
Construction			Relievi	ng type		
Weight	0.14 kg	0.27 kg	0.48 kg	0.51 kg	1.13 kg	1.25 kg

*1 Pressure gauge connection threads are not available for F.R.L. unit with a square embedded type pressure gauge or with a digital pressure switch. *2 -5 to 50 °C for the products with the digital pressure switch

Option/Part Nos.

0	Optional specifica	tiono			Mo	odel						
C	puonai specifica	luons	AR20(K)-D	AR30(K)-D	AR40(K)-D	AR40(K)-06-D	AR50(K)-D	AR60(K)-D				
Bracket as	sembly*1		AR23P-270AS	AR33P-270AS	AR43F	-270AS	AR54P	-270AS				
Set nut			AR23P-260S	AR33P-260S	AR43	P-260S		_*2				
		Standard	G36-1	0-🗆01		G46-1	0-🗆01					
	Round type	0.02 to 0.2 MPa setting	G36-4	4-🗆01	G46-4-⊡01							
	Round type	Standard	G36-10)-□01-L		G46-10	-□01-L					
Pressure	(with colour zone)	0.02 to 0.2 MPa setting	G36-4	-□01-L		G46-4-	⊡01-L					
gauge* ³	Square	Standard		GC3-10A	S-D [136150A (F	ressure gauge co	over only)]					
	embedded type ^{*4}	0.02 to 0.2 MPa setting		GC3-4AS	S-D [136150A (P	ressure gauge co	ver only)]					
	Disht on ale	Standard		GC3-10AS-J-D [GC3-10AS-JA-D]	_	_				
	Right angle square type*5	0.02 to 0.2 MPa setting		GC3-4AS-J-D [GC3-4AS-JA-D]		_	_				
		NPN output, Wiring bottom entry		ISE35-N-25-N	/ILA-X523 [ISE3	5-N-25-M (Switch	body only)]*6					
Digital pre	ssure switch	NPN output, Wiring top entry		ISE35-R-25-N	/ILA-X523 [ISE3	5-R-25-M (Switch	body only)]*6					
Digital pre	Sourc Switch	PNP output, Wiring bottom entry		ISE35-N-65-N	/ILA-X523 [ISE3	5-N-65-M (Switch	body only)]*6					
		PNP output, Wiring top entry		ISE35-R-65-N	65-MLA-X523 [ISE35-R-65-M (Switch body only)]*6							

*1 The assembly consists of a bracket and set nuts. For the AR50(K)-D and AR60(K)-D, the assembly consists of a bracket A/B and 2 mounting screws.

*2 Please contact SMC regarding the set nuts for the AR50(K)-D and AR60(K)-D.

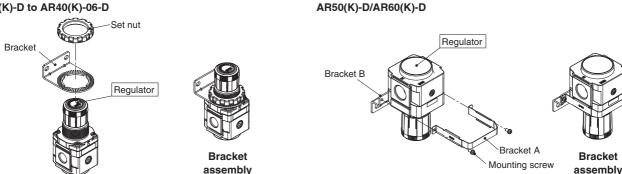
*3
 in part numbers for a round pressure gauge indicates a pipe thread type. No indication is necessary for R; however, indicate N for NPT. Please contact SMC regarding the pressure gauge supply for both MPa and psi unit specifications.
 *4 Including one O-ring and 2 mounting screws. []: Pressure gauge cover only

*5 The right angle square type pressure gauge only includes the pressure gauge body. The pressure gauge body comes with 1 O-ring and 2 mounting screws.

In addition, the part number in brackets includes a pressure gauge with a right angle adapter as well as an adapter, lock pin, 1 O-ring, and 2 mounting screws.

*6 In addition to the pressure switch body, lead wire with connector (2 m), adapter, lock pin, O-ring (1 pc.), mounting screws (2 pcs.) are attached.
[]: Switch body only (For the digital pressure switch specifications, refer to page 130.)

AR20(K)-D to AR40(K)-06-D



Replacement Parts

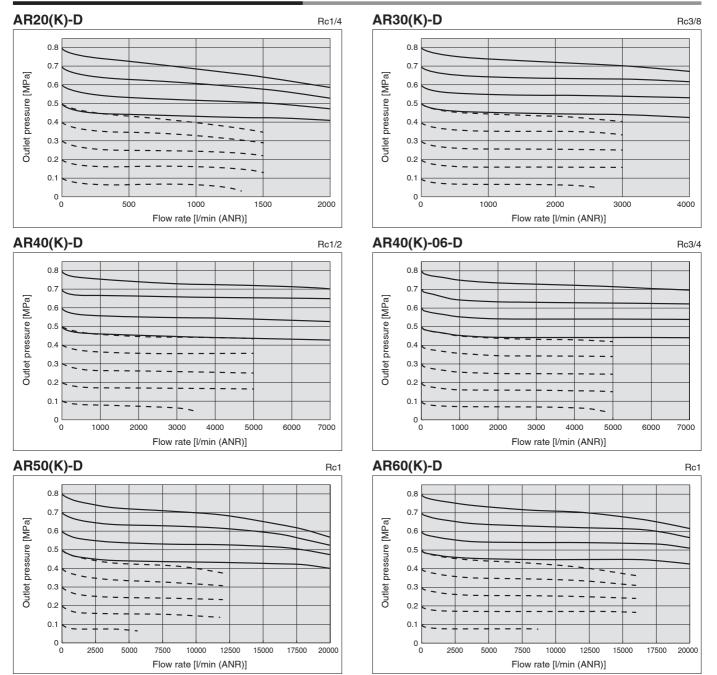
Deser	intion			Part	t no.		
Descr	iption	AR20(K)-D	AR30(K)-D	AR40(K)-D	AR40(K)-06-D	AR50(K)-D	AR60(K)-D
Valve assemb	ly	AR24P-060AS	AR34P-060AS	AR44P-060AS	AR54P-060AS	AR64P-060AS	
Diaphragm	Relieving type	AR24P-150AS	AR34P-150AS	AR44P	-150AS	AR54P	-150AS
assembly	Non-relieving type	AR24P-150AS-N	AR34P-150AS-N	AR44P-1	150AS-N	AR54P-1	150AS-N
Valve guide a	ssembly	AR24P-050AS	AR34P-050AS	AR44P	-050AS	AR54P	-050AS
Check valve a	ssembly*1			AR24KF	2-020AS		

*1 The check valve assembly is applicable for a regulator with backflow function (AR20K-D to AR60K-D) only. The assembly consists of a check valve cover, check valve body assembly, and 2 mounting screws.



Flow Rate Characteristics (Representative values)

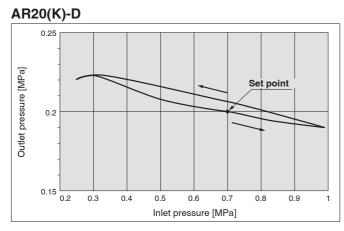
Inlet pressure: 1.0 MPa
 - - - Inlet pressure: 0.7 MPa



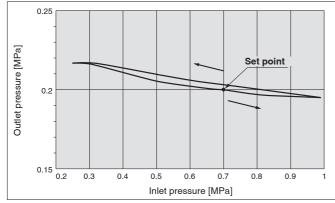
AR20-D to AR60-D Series AR20K-D to AR60K-D Series

Pressure Characteristics (Representative values)

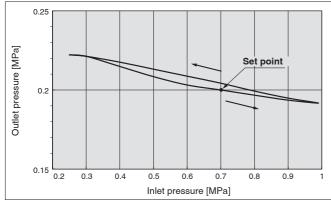
Conditions: Inlet pressure of 0.7 MPa, Outlet pressure of 0.2 MPa, Flow rate 20 l/min (ANR)

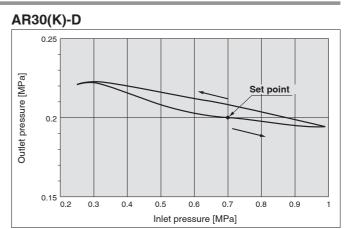




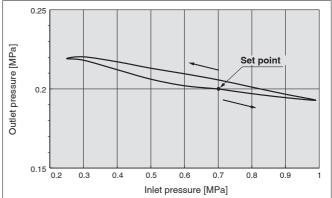


AR50(K)-D

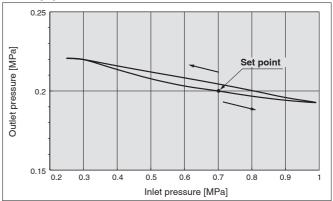




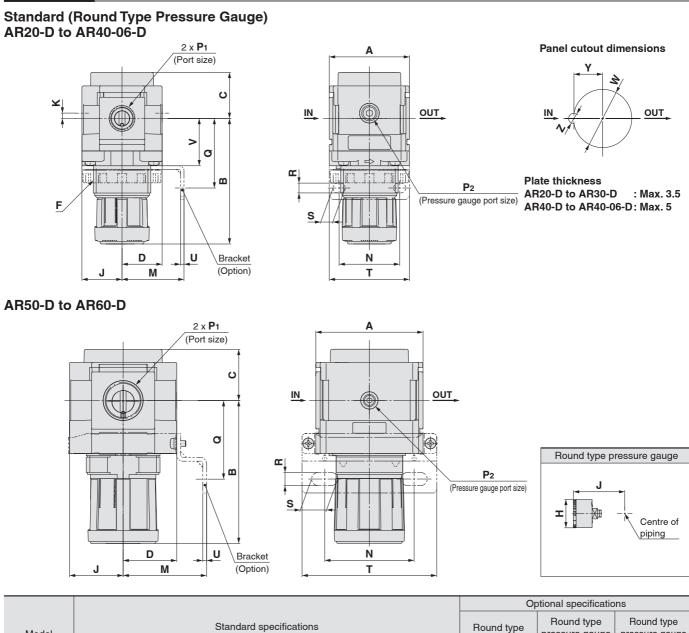








Dimensions



											-1	a and a a p			
Model			ę	Standard	specific	ations				Round pressure	naune	Rounc pressure (Semi-stat	gauge	Round pressure (with colo	gauge
	P 1	P2	Α	B *1	С	D	F	J	К	Н	J	Н	J	Н	J
AR20-D	1/8, 1/4	1/8	40	66.8	26.5	21	M28 x 1	21	2	Ø 37.5	57.5	Ø 37.5	58.5	Ø 37.5	58.5
AR30-D	1/4, 3/8	1/8	53	86.5	30.5	26.5	M38 x 1.5	26.5	3.5	Ø 37.5	63	Ø 37.5	64	Ø 37.5	64
AR40-D	1/4, 3/8, 1/2	1/8	70	91.5	35.5	35.5	M42 x 1.5	35.5	—	Ø 42.5	73	Ø 42.5	73	Ø 42.5	73
AR40-06-D	3/4	1/8	75	93	35.5	35.5	M42 x 1.5	35.5		Ø 42.5	73	Ø 42.5	73	Ø 42.5	73
AR50-D	3/4, 1	1/8	90	125	43	45	_	45	—	Ø 42.5	82.5	Ø 42.5	82.5	Ø 42.5	82.5
AR60-D	1	1/8	95	155	45	45	—	45	—	Ø 42.5	82.5	Ø 42.5	82.5	Ø 42.5	82.5

					Optiona	al specifi	cations				
Model			Bra	acket mo			Panel	mount			
	М	N	Q	R	S	Т	U	V	W	Y	Z
AR20-D	30	34	43.9	5.4	15.4	55	2.3	24.7	28.5	14	6
AR30-D	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7
AR40-D	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7
AR40-06-D	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7
AR50-D	70	75	66	11	22	113	3.2	—		_	_
AR60-D	70	75	66	11	22	113	3.2	_		_	—

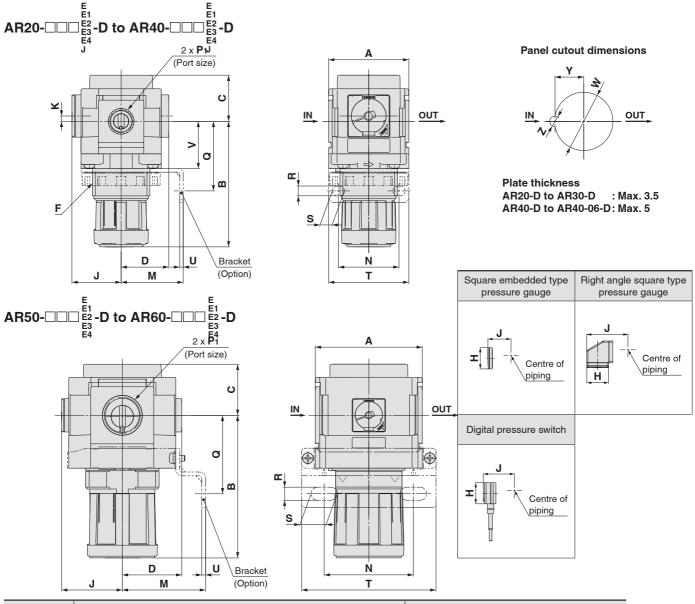
*1 The dimension of B is the length when the regulator knob is unlocked.



AR20-D to AR60-D Series AR20K-D to AR60K-D Series

Dimensions

Standard (Square Embedded Type Pressure Gauge, Right Angle Square Type Pressure Gauge, Digital Pressure Switch)



									Op	otional sp	pecificati	ions	
Model		S	Standard	specific	ations				mbedded ure gauge	Right ang type press		Digital p swit	
	P 1	Α	B *1	С	D	F	K	Н	J	Н	J	Н	J
AR20-D	1/8, 1/4	40	66.8	26.5	26	M28 x 1	2	□28	27	□28	54.3	□27.8	37.5
AR30-D	1/4, 3/8	53	86.5	30.5	31.5	M38 x 1.5	3.5	□28	32.5	□28	59.8	□27.8	43
AR40-D	1/4, 3/8, 1/2	70	91.5	35.5	40.5	M42 x 1.5	—	□28	41.5	□28	68.8	□27.8	52
AR40-06-D	3/4	75	93	35.5	40.5	M42 x 1.5	—	□28	41.5	□28	68.8	□27.8	52
AR50-D	3/4, 1	90	125	43	50	_	—	□28	51	—	—	□27.8	61.5
AR60-D	1	95	155	45	50	—	—	□28	51	—	—	□27.8	61.5

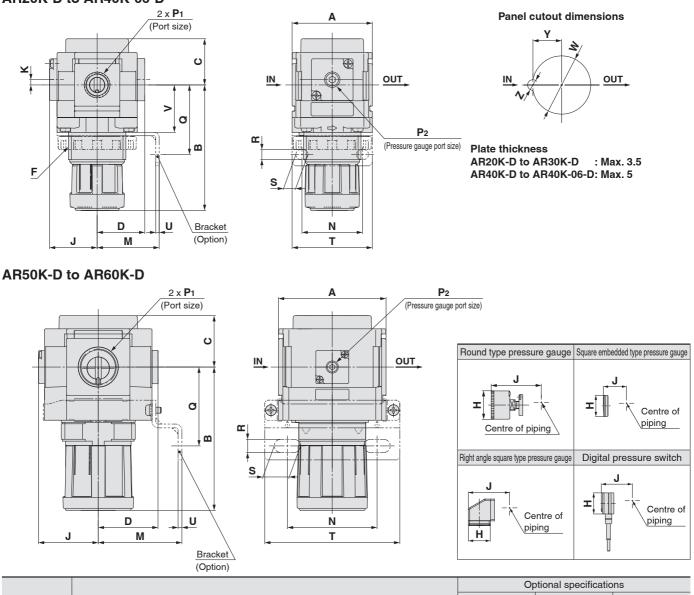
SMC

					Optiona	al specifi	ications				
Model			Bra	acket mo		Panel mount					
	М	N	Q	R	S	Т	U	V	W	Y	Z
AR20-D	30	34	43.9	5.4	15.4	55	2.3	24.7	28.5	14	6
AR30-D	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7
AR40-D	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7
AR40-06-D	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7
AR50-D	70	75	66	11	22	113	3.2	_	_	_	_
AR60-D	70	75	66	11	22	113	3.2	—	—		

*1 The dimension of B is the length when the regulator knob is unlocked.

Dimensions

With Backflow Function (Round Type Pressure Gauge, Square Embedded Type Pressure Gauge, Right Angle Square Type Pressure Gauge, Digital Pressure Switch)
AR20K-D to AR40K-06-D



											O	otional spe	ecificatio	ns	
Model			ę	Standard	specific	ations				Round		Round type pre (Semi-star		Round type pre (with color	• •
	P 1	P2	Α	B *1	С	D	F	J	K	Н	J	Н	J	Н	J
AR20K-D	1/8, 1/4	1/8	40	66.8	26.5	26	M28 x 1	26	2	Ø 37.5	62.5	Ø 37.5	63.5	Ø 37.5	63.5
AR30K-D	1/4, 3/8	1/8	53	86.5	30.5	31.5	M38 x 1.5	31.5	3.5	Ø 37.5	68	Ø 37.5	69	Ø 37.5	69
AR40K-D	1/4, 3/8, 1/2	1/8	70	91.5	35.5	40.5	M42 x 1.5	40.5	—	Ø 42.5	78	Ø 42.5	78	Ø 42.5	78
AR40K-06-D	3/4	1/8	75	93	35.5	40.5	M42 x 1.5	40.5	—	Ø 42.5	78	Ø 42.5	78	Ø 42.5	78
AR50K-D	3/4, 1	1/8	90	125	43	50		50	—	Ø 42.5	87.5	Ø 42.5	87.5	Ø 42.5	87.5
AR60K-D	1	1/8	95	155	45	50	—	50	—	Ø 42.5	87.5	Ø 42.5	87.5	Ø 42.5	87.5

								Optiona	I specific	cations								
Model	Square e type press		Right ang type press	•	Digital pi swit				Bra	icket mo	unt			Panel mount				
	Н	J	Н	J	Н	J	Μ	Ν	Q	R	S	Т	U	V	W	Y	Z	
AR20K-D	□28	27	□28	54.3	□27.8	37.5	30	34	43.9	5.4	15.4	55	2.3	24.7	28.5	14	6	
AR30K-D	□28	32.5	□28	59.8	□27.8	43	41	40	46	6.5	8	53	2.3	31.3	38.5	19	7	
AR40K-D	□28	41.5	□28	68.8	□27.8	52	50	54	54	8.5	10.5	70	2.3	35.5	42.5	21	7	
AR40K-06-D	□28	41.5	□28	68.8	□27.8	52	50	54	55.5	8.5	10.5	70	2.3	37	42.5	21	7	
AR50K-D	□28	51	—	_	□27.8	61.5	5 70 75 66 11 22 113 3.2 — — — —						—					
AR60K-D	□28	51	—	_	□27.8	61.5	5 70 75 66 11 22 113 3.2 — — —						_					

*1 The dimension of B is the length when the regulator knob is unlocked.



Regulator/AR20-D to AR60-D Regulator with Backflow Function/AR20K-D to AR60K-D Made to Order

Please contact SMC for detailed dimensions, specifications, and lead times.



10.4 MPa Setting

The setting specification is 0.4 MPa. When a pressure gauge is included, the display will show a range from 0 to 0.7 MPa.

Specifications

Made-to-order part no.	-X406
Proof pressure [MPa]	1.5
Max. operating pressure [MPa]	1.0
Set pressure range [MPa]*1	0.05 to 0.4

*1 Pressure can be set higher than the specification pressure in some cases, but use pressure within the specification range

Applicable Models

Model AR20(K)-D Port size 1/8, 1/4		AR30(K)-D		AR40(K)-D AR40(K)-06-D A		AF	R50(K)-D		AR60(K)-D			
		1/8, 1/4		1/4, 3/8	1/4, 3/8, 1/2	3/4		3/4, 1		1		
AR 30			03 D- <u>X406</u>				Option and Semi-standard Symbol Selection · Select one each for a to f . · When more than one specification is required indicate in alphabetical order.					
	C	1) (2) (3)) (4)	5	6	●0.4 MPa set	ting	Example) A				
	/	/			Description			1				
			Symbol	Description			Body size 20 30 40 50 60					
										1		
2 With backflow function			— K*1	Without backflow function With backflow function					•	•	•	
			+		WILLI DACKIO							
			—		Rc							
3 Pipe thread type			N	NPT					•	•	•	•
			F	G								
			+									
			01		1/8				-	—	—	-
			02	1/4						•	—	
1		Port size	03	3/8						•		
			04	1/2				-	•	_	-	
			06	3/4						•	•	_
			10 +		1					—		
		a Mounting	T	Without mount	ing option					•	•	•
			B * ³	Without mounting option With bracket					•	•	•	
	a		H	With set nut (for panel mount)						_	_	
			+	inter oor nur (n	, panor mounty				•	•	I	1
		Pressure gauge*4	_	Without pressu	ire daude							
*2			E	Square embedded type pressure gauge (with limit indicator)					•	•	•	
Option*2			G	Round type pressure gauge (with limit indicator)						•		
0 d			J* ^{5,*6}	Right angle square type pressure gauge (with limit indicator)						_	_	
	b		М	Round type pr	essure gauge (with co	lour zone)						
		Digital pressure switch ^{*7}	E1		utput, Electrical entry							
			E2		utput, Electrical entry							
			E3	Output: PNP output, Electrical entry: Wiring bottom entry								
			E4	Output: PNP output, Electrical entry: Wiring top entry								
			+									
	c	Exhaust mechanism		Relieving type					•		•	
			N	Non-relieving t	уре							
			-r	Flow direction:	Left to right							
ard	d	Flow direction	 	Flow direction:								
Semi-standard			+	1.5W direction.					•	-	-	
-stal		Knob	· 	Downward								
	e		Y	Upward						•	•	•
Se			+	P					-	-	-	
		f Unit		Unit on produc	t label: MPa, Pressure	e gauge in SI units: MPa						
	f		Z *8		,	gauge: MPa/psi dual scale	e	0*10	O*10	O* ¹⁰	O* ¹⁰	O*10
			ZA*9		e switch: With unit sel			∆*11	∆*11	∆*11	∆*11	∆*11

*1 Set the inlet pressure to at least 0.05 MPa higher than the set pressure. *2 Options B, G, H, and M are not assembled and supplied loose at the time of shipment.

*3 The assembly consists of a bracket and set nuts (applicable to the AR20(K)-D to AR40(K)-D)

The AR50(K)-D and AR60(K)-D assemblies include 2 types of brackets and 2 mounting screws *4 A 0.7 MPa pressure gauge will be fitted.

*5 Cannot be selected for the type with a set nut (option "H")

- *6 The direction the pressure gauge scale plate faces is from the knob side.
- *7 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 electrical entry. (Select "wiring bottom entry" when the semi-standard Y is chosen simultaneously.)

*8 For the pipe thread type: NPT This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.) Cannot be used with M: Round type pressure gauge (with colour zone). Available by request for special. The digital pressure switch will be equipped with the unit selection function, setting to psi initially.

*9 For options: E1, E2, E3, E4. This product is for overseas use only according to the New Measurement Act. (The SI unit type is provided for use in Japan.)

*10 O: For the pipe thread type: NPT only ∗11 △: Select with options: E1, E2, E3, E4.



3 Copper, Fluorine and Silicone-free + Low Particle Generation

For details, refer to the Clean Series/Low Particle Generation section of the Web Catalogue.



Copper, Fluorine and Silicone-free + Low Particle Generation