

Clean air module (Large flow type)

LLA6A-04-X8

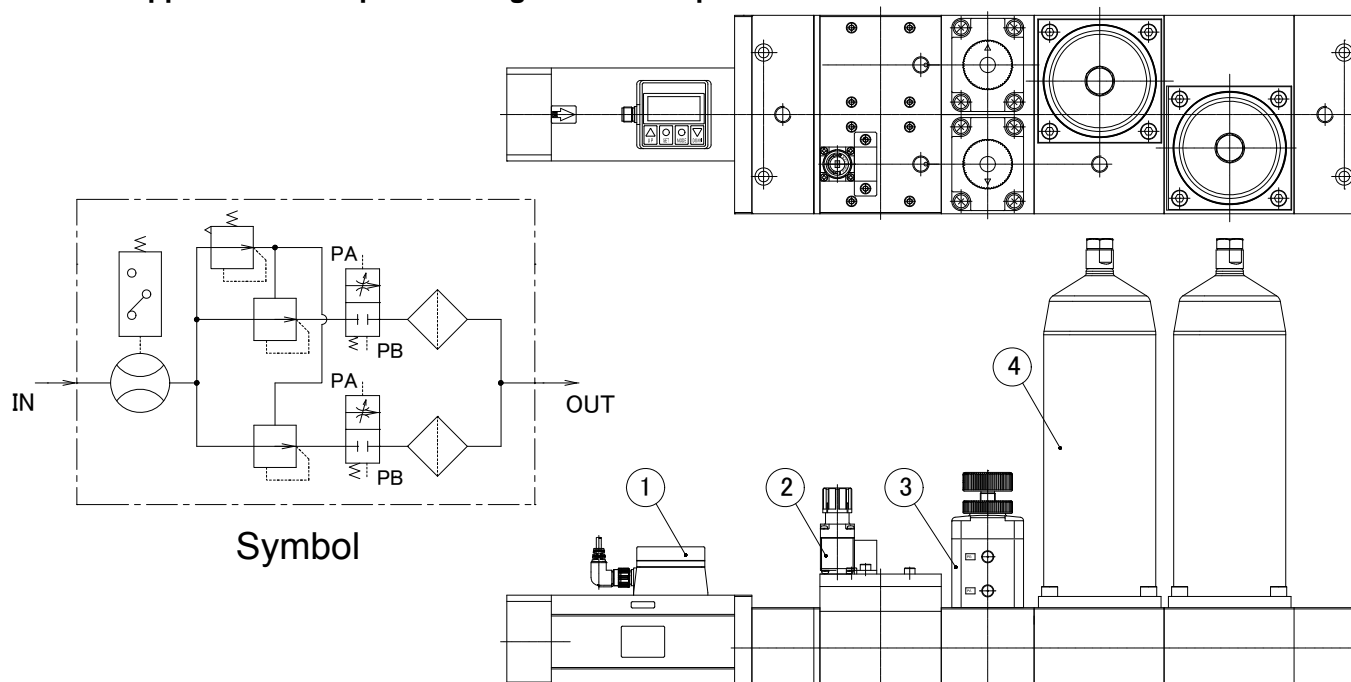
SMC CORPORATION
4-14-1, SOTO-KANDA, CHIYODA-KU,
TOKYO 101-0021, JAPAN
URL: <http://www.smcworld.com>

Feature 1: Space saving.

(Digital flow switch, regulator, air-operated valve and filter are integrated into one body.)

Feature 2: Rated flow 10,000ℓ/min(ANR)

·Application example: Blowing air to an LC panel substrate.



Common specifications

Model		LLA6A-04-X8
Fluid		Clean air, N ₂ gas*1)
Max. operating pressure		0.7MPa
Set pressure range		0.05~0.7MPa
Rated flow		10,000 ℓ/min(ANR)
Proof pressure		1MPa
Ambient and fluid temperatures		5~50°C (With no freezing) *5)
Filtration		0.01μm
Port size		2×Rc1・1/2
Wetted parts material	Body	Please refer to the table of the wetted parts material.
	Seal	
Weight		20kg

Wetted parts material

No.	Product	Wetted parts material
1	Digital flow switch	Attachment: Aluminum alloy
		Seal: H-NBR
		Mesh: SUS
		Body: Aluminum alloy
		Sensor: PPS
		Spacer: PBT
2	Clean regulator	Body: Aluminum alloy
		Diaphragm: FKM
		Seal : FKM
3	Air-operated valve	Body: Aluminum alloy
		Diaphragm: PTFE
4	Filter	Body: Aluminum alloy
		Case: SUS
		Seal: FKM, PTFE
		Element material: PES, PP

*1) Inlet air should be equivalent to the compressed air quality class 1.4.1~1.6.1 of ISO8573-1

*2) For the specifications of each product, please refer to the next page.

*3) Wetted parts are degreased before shipment.

*4) 5 gauge port plugs are included with shipment. (Gauge ports are sealed before shipment.)

*5) Range of output specification and indication accuracy of the digital flow switch is valid within 15~35°C.

Each product specifications

Product		Digital flow switch for air
Detection method		Heater type
Flow rate measuring range		120~12,000 ℓ/min
Minimum set unit		10 ℓ/min
Accumulated flow range		0~9,999,999,999ℓ (≒ 10 billionℓ)
Linearity		±5%F.S. or less (at 0.7MPa, 15~35°C) (based on 25°C)
Repeatability		±1.5%F.S. or less (at 0.7MPa, 20°C)
Temperature characteristics		±5%F.S. or less (at 0.7MPa, 15~35°C) (based on 25°C)
Output specifications	Switch output	1 output NPN open collector Max. applied voltage: 30V, Max. load current: 80mA Internal drop voltage: 1V or less (with load current of 80mA)
	Analog output	Current output : 4~20mA, Load impedance: 250 Ω or less (Only available for instant flow indication, not for accumulated flow indication)
Indicator light		Lights up when output is ON, OUT1: Green
Response time		1s
Power supply voltage		DC24V (Ripple ±10% or less)
Current consumption		180mA or less
Enclosure		IP65
Port size		Rc1·1/2

Product		Clean regulator
Relief type		Non-relieving
Set pressure range		0.05~0.7MPa
Ambient and fluid temperatures		0~50°C (No condensation or freezing)

Product		Air-operated valve
Fluid pressure		0~0.7MPa
Pilot pressure		0.3~0.5MPa
Exhaust pressure		0.5MPa or less
Type of actuation		N.C., Double acting *6)
Orifice diameter		Ø20mm
Cv value		9

*6) Although normally a closed state can be obtained by releasing PA and PB ports to the atmosphere, normally a valve should be closed by applying pressure to PB port.

Product		Air filter
Rated flow		10,000 ℓ/min(ANR) (Filter inlet pressure: 0.4MPa, Pressure drop: 0.03MPa or less)
Filtration		0.01μm (Filtration efficiency: 99.99%) *7)

*7) Based on our measurement conditions.

Dimensions: mm (Refer to the drawing attached to the last page)



Caution To ensure the safest possible operation of this product, please be sure to read thoroughly the "Safety Instructions" in our "Best Pneumatics" catalog before use.

Specifications

Fluid	Clean air, N ₂ gas
Fluid pressure MPa	0~0.7
Proof pressure MPa	1
Set pressure range MPa	0.05~0.7
Ambient and fluid temperatures °C (with no freezing)	5~50
Wetted parts material	Body AL Seal FKM
Weight kg	20

(1)Clean regulator specifications

Relief type	Non-relieving
Max. operating pressure MPa	1
Set pressure range MPa	0.05~0.7
Wetted parts material	Diaphragm FKM

(2)Air-operated valve specifications

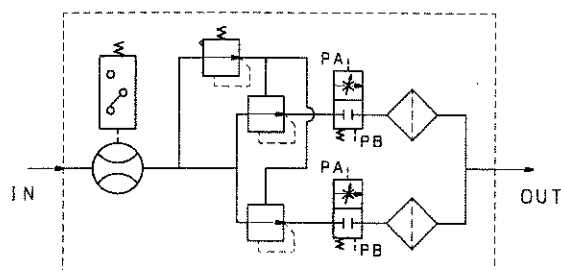
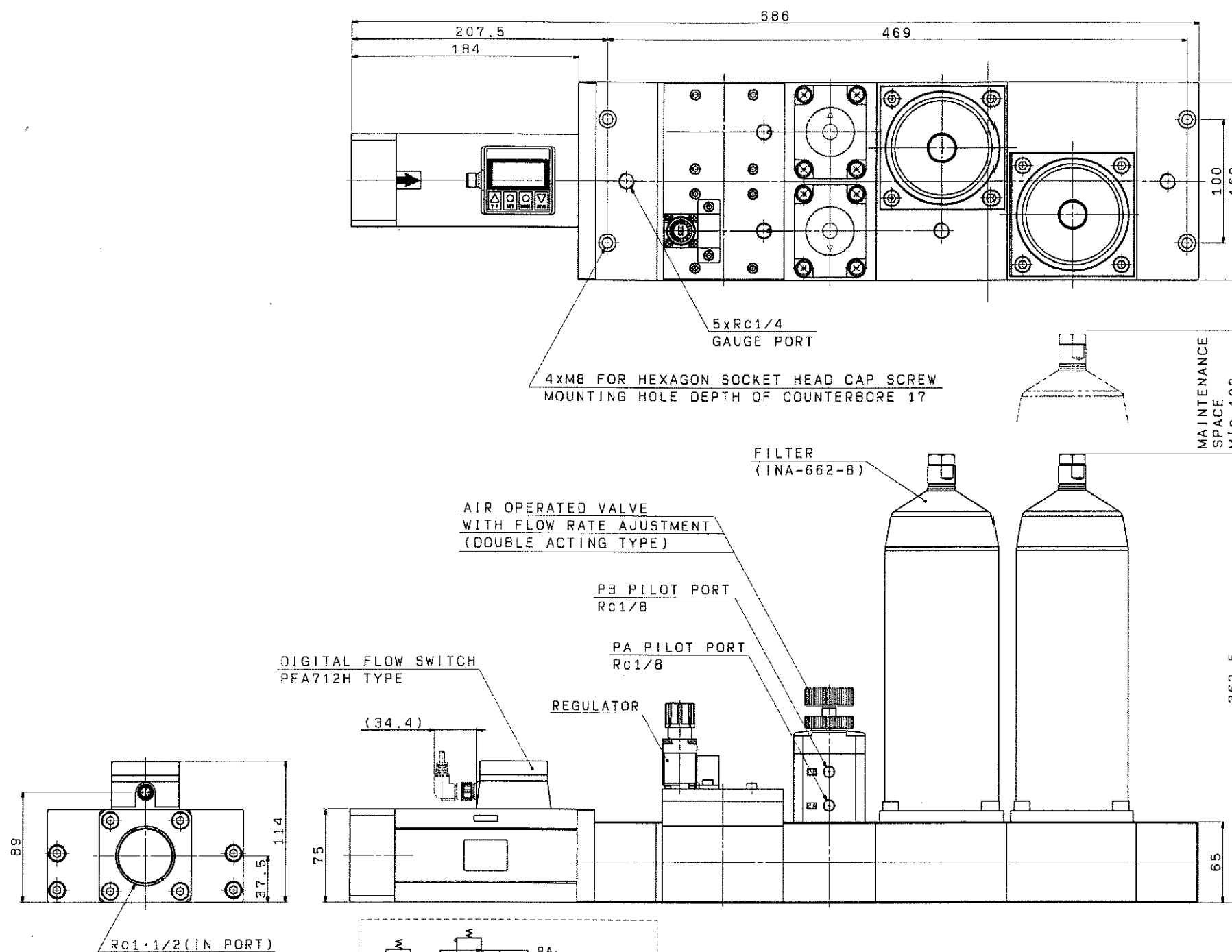
Fluid pressure MPa	0~0.7
Pilot pressure MPa	0.3~0.5
Exhaust pressure MPa	0.5 or less
Type of actuation	N.C., Double acting
Orifice diameter mmφ	20
Cv value	9
Wetted parts material	DIAPHRAGM PTFE

(3)Digital flow switch for air

Detection method	Heater type
Flow rate measuring range L/min	120~12,000
Minimum set unit L/min	10
Accumulated flow range L	0~9,999,999,999
Linearity	±5%F.S. or less (at 0.7MPa, 15~35°C/based on 25°C)
Repeatability	±1.5%F.S. or less (at 0.7MPa, 20°C)
Temperature characteristics	±5%F.S. or less (15~35°C/based on 25°C)
Output specifications	Switch output 1 output NPN open collector Max. applied voltage: 30V, Max. load current: 80mA Analog output Current output: 4~20mA, Load impedance: 250Ω or less
Indicator light	Lights up when output is ON, OUT1: Green
Response time	1s
Power supply voltage	DC24V (Ripple ±10% or less)
Current consumption	180mA or less
Enclosure	IP65

(4)Filter specifications

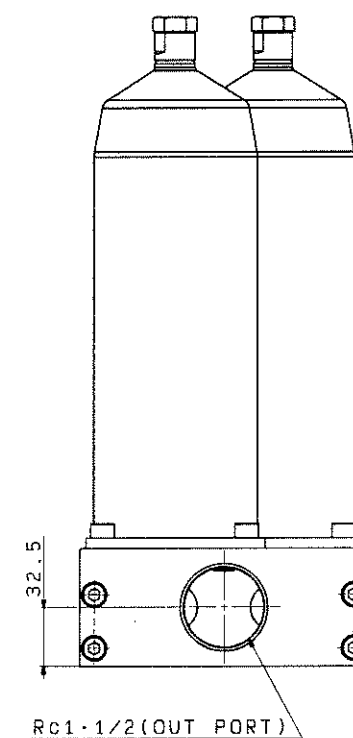
Max. operating pressure MPa	0.99
Ambient and fluid temperatures °C (with no freezing)	5~80°C
Fluid	Air (nitrogen)
Rated flow	10,000L/min (ANR)
Filtration	(Filter inlet pressure: 0.4MPa, Pressure drop: 0.03MPa or less) 0.01μm (Filtration efficiency: 99.99%)



SYMBOL

Special specifications

- 1) Parts in contact with fluid degreasing wash.
- 2) Gloves wearing when assembling it.
- 3) Plug for gauge port is same packing (5 pieces).
- 4) When shipping it, the gauge port is closed with the seal.
- 5) rated flow: 10,000L/min (ANR)
- 6) Filter is same packing (2 pieces).



REVISION	DESCRIPTION	DATE	PREPARED	REV NO	SCALE	FINISH	PAINT	PACKING	MODEL	QTY
1	DESIGNED	2008-10-03	T. Uchino	1	FREE					
2	CHECKED	2008-10-03	T. Maruyama	2						
3	APPROVED	2008-10-03		3						

③ LLA6A-04-X8

SMC Corporation