

# PRESSURE CONTROL SYSTEM



**DESCRIPTION CONTROLLER SG6100**

The MAR-IN CONTROLS SG 6100 Pressure Control Station can be used to control and indicate industrial process variables. It employs direct measuring elements for pressure and temperature and sends a modulated signal to pneumatic actuators (e.g. a control valve).

**Technical data****Ambient temperature limits**

service : -40 to +70°C.  
storage : -50 to +80°C.

**Case**

dimensions : 192 x 192 mm DIN  
43700  
protection grade : IP 55 - IEC 144  
material : Reinforced Technopolymer

**Control Unit**

motion balance

**Control actions and ranges of adjustment**

P : BP 2/200% (Kp 50/0.5)  
P + I : BP 4/400% (Kp 25/0.25) ; Ti 0.1/25 min

**Direct/Reverse acting** : reversible by rotating the BP dial

**Intrinsic Proportional Band (P+I)** : 0.5%

**Drift for variation of ambient temperature within -20 and +60°C** :  $\leq 0.035\%/^{\circ}\text{C}$

**Drift for variation of supply pressure within 1.2 and 1.7 bar** :  $\leq 0.15\%/0.1 \text{ bar}$

**Air Supply** :  $1.4 \pm 0.1 \text{ bar}$

**Air Consumption in steady state** : 400 gr/h

**Output signal** : 5 to 95% of supply pressure

**Scale** : vertical, 75 mm

**Set Point** : local, mechanical, with internal knob, adjustable over full scale range

**Output Indicator**

scale : 0..2 bar and 0..30 psi  
accuracy :  $\pm 2\%$

**Measuring Elements****Accuracy** (% of span)

Linearity and hysteresis	: $\pm 1\%$
Repeatability	: $\leq 0.25\%$
Dead zone	: $\leq 0.2\%$

**Pressure - Vacuum - Receiver**

connection	: AISI 316 C-type tube spring
overpressure	: 1/4" NPT f.
	: 25% u.s.v.

**Temperature**

connection	: mercury filled, AISI 316 st.st. bulb with;
Adjustable immersion	: 1/2" NPT m.
	: 350 mm. AISI 316 st.st. capillary, 3 m length.

**Overtemperature**

: see codification

**Mounting**

: panel or wall

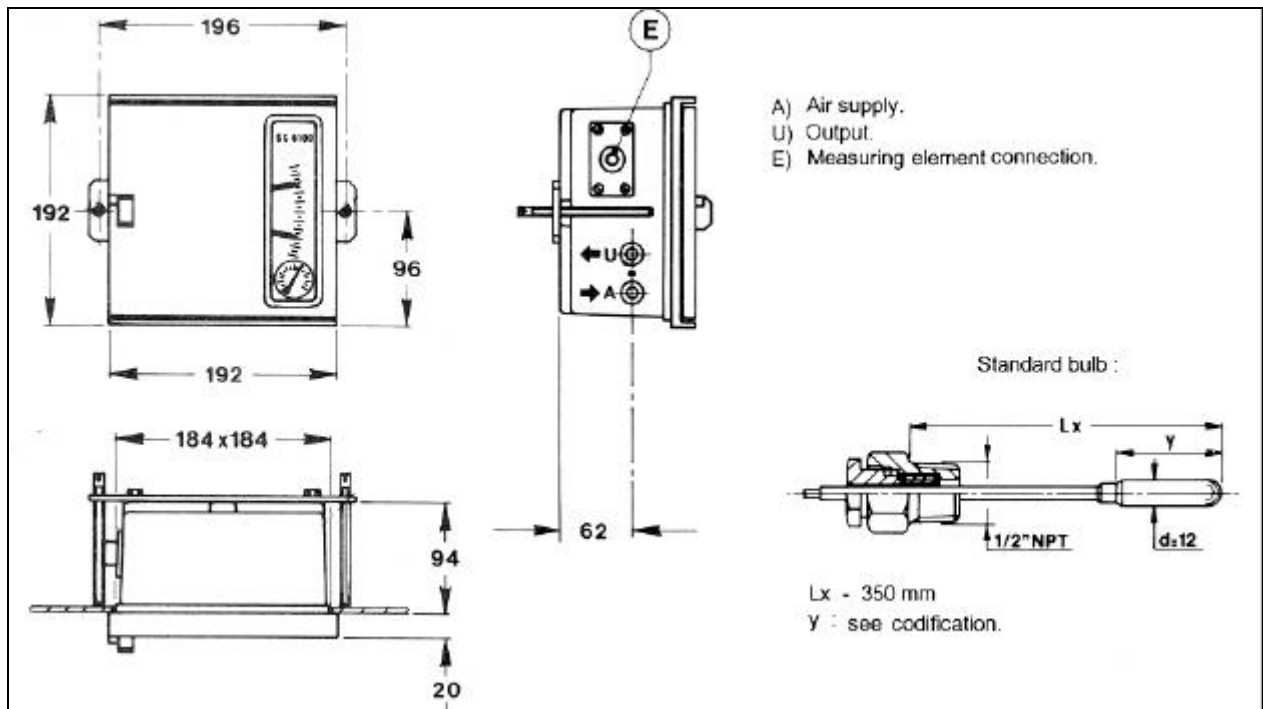
**Options**

: protection IP 65  
: capillary 6 m length



Ambient temperature	: - 40 to + 70 °C
Material case	: Reinforced technopolymer
Protection grade	: IP 55
Control action	: P.I. BP 4-400% (Kp 25-0.25); Ti 0.1-25 min
Air supply	: 1,4 bar clean, dry and oil-free instrument air
Air consumption	: 400 gr/h
Air connections	: 1/4" NPT (internal)
Input	: range indicated inside controller. 0 - 2.5 bar up to 0 - 40 bar -20°C to 40°C up to 0°C - 250°C 0,2 - 1,0 bar

**Dimensions in mm**



## **FILTER-REGULATOR FR64 FOR INSTRUMENTS AIR SUPPLY**

The series here described, are designed for air supply of pneumatic instruments, offers excellent performance, easy mounting and guarantees years of trouble-free operation.

### **General**

#### **Regulator Unit**

#### **Materials**

Body and upper cover : die cast aluminium AL UNI 4514

Diaphragm : nitrilic rubber.

Drain valve : AISI 303.

Control valve spring : stainless steel.

Range spring : carbon steel.

Note: there is no copper (pure or in alloy) in the other materials used.

#### **Regulation**

By knob or hexagonal head screw.

#### **Connections**

Air connections : 1/4" NPT f.

Output gauge connection : 1/8" NPT f.



### **SPECIFICATIONS**

Max supply pressure : 18 bar (250 psi).

Filter-regulator output pressure range : between 0,35 and 7 bar (5 an 101 psi).

Regulator output pressure range : between 0,35 and 2,5 bar (5/35 psi)

Effect of supply pressure variation : 0,35 mbar/bar (0,005 psi/psi).

#### **Environment conditions**

Storage temperature : -20 - +90°C.

Operating temperature : -20 - +80°C.

Humidity : 5 - 95%.

**Weights:** base regulator 0,4Kg; basefilter-regulator 0,5Kg;valve 0,150 kg

### **FILTER UNIT**

#### **Materials**

Filter housing : die cast aluminum painted

Filter element: : AISI 303/304.

Filtration grade : 10 micron, standard

Impurities blow-out : by petcock

**Control Valve serie L-20****Technical data****Valve body****Type:** globe, single seat**Connections:** flanged UNI 2223/29 PN16; 40**Overall dimensions:** according to UNI /DIN rules**Materials**

- cast iron G25
- carbon steel ASTM A216 WCB
- stainless steel ASTM A351 CF8M

**Bonnet**

- normal
- finned
- extended

**Bonnet packing**

- ptfе coal graphite rings
- teflon/graphite asbestos
- graphite
- bellows seal

**Trim****plug execution**

- type contoured

**Flow Characteristic**

- equal percentage
- linear
- On-off

**Cv value:** see table 1**Rangeability:** 1/50 (std execution)**Seat/plug seal**

- metal to metal
- resilient

**Leak-rate**

- CL. IV ANSI B16.104 (metal seal)
- CL. VI ANSI B16.104 (resilient seal)

**Guide:** N 2. Upper**Material**

- plug: AISI 316
- seat: AISI 316

- guide bushing: AISI 440 C

**Actuator****Type:** diaphragm**Handwheel (on request):** top or side**Action:** reversable (without top handwheel)**Spring ranges:** see table 1**Material:** - diaphragm: neoprene linen reinforced

- yoke: cast iron

- casing: steel plate

**Air connection:** ¼NPT.F.**Supply pressure:** see table 1\_**Particular features****Valve body****connections:**

- flanged ANSI B16.5 125 FF/150-300RF/JIS5k-40K
- S.W. according to ANSI B16.11
- B.W. according to ANSI B16.25
- Screwed ANSI B2.1

**Materials**

- steel A352 LCB(for low temperature)
- steel A217 WC9 - hastelloy
- others on request

**Bonnet**

- finned (&gt;300°C) - bellows seal (&gt; 6 bar / 350°C)

**Seat/plug/guide materials**

- AISI 316 stellited - solide stellite
- hastelloy - others on request

**Seat/plug seal:** CL V; CL VI ANSI B16.104(metal seal)**Rangeability:** 1/100**Actuator:** - reinforced execution:

supp. Pressure max 6 bar

- diaphragm: silicon rubber linen reinforced (-50/+130°C)

**Material: yoke:** steel-stainless steel**plates:** stainless steel

**Overall Dimensions (mm):**

DN	15	20	25	32	40	50	65	80	100	
PN	16/40									
A	130	150	160	180	200	230	290	310	350	
B	48	53	58	70	75	83	93	110	127	
C	std. bonnet	53	62	62	75	75	81	95	123	132
	finned bonnet( $\leq 300^{\circ}\text{C}$ )	153	170	170	183	228	253	267	340	358
	bellow seal (6 bar/ $350^{\circ}\text{C}$ )	147	164	164	176	176	242	252	322	318
	extended (-10/ $-60^{\circ}\text{C}$ )	415	415	415	422	422	449	460	545	555
	extended(-60/ $-200^{\circ}\text{C}$ )	540	540	540	593	593	640	640	640	640
D	200					-				
	280					-				
	-	330					-			
	-	380/A			380/B		380/C			
Stroke	15				22		34			

D	H	E	KT	KL
200	300	125	155	220
280	300	175	155	220
330	305	175	155	220
380/A	320	225	186(d) 140(i)	260
380/B	400	225	186(d) 147(i)	260
380/c	480	225	200(d) 179(i)	260

