



VIMEC
Macchine Vibranti e Impianti
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www.vimec.it - vimec@vimec.it



TECHNICAL DOCUMENTATION

CUSTOMER : DESMET BALLESTRA

JOB VIMEC No: 720514

ORDER No : 121501 of 18/06/2012
PNEUMATIC / BIN ACTIVATORS

Plant : Sabiz

Job No. : 2F11

Bin activator / Item: VAR 2 / 62SR2

Pneumatic activator / Item: VAP 50 / 62SR11 A/B

Pneumatic activator / Item: VAP 50 / 62SR22 A/B

Pneumatic activator / Item: VAP 50 / 62SR33 A/B

Bin activator / Item: VAP 30 / 64SR2A

Bin activator / Item: VAP 30 / 64SR2B

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- RFL group data-sheets page 11
- Declarations of incorporation for pneumatic vibrators page 25
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DRAWINGS

- Fixing plate for pneumatic vibrators type VAP page 32
- Fixing plate for pneumatic vibrators type VAR page 33

MANUALS

- Installation, operating and maintenance instruction manual for pneumatic vibrator type VAP
- Installation, operating and maintenance instruction manual for pneumatic vibrator type VAR

		VIBRATOR SPECIFICATION SHEET		Doc. Nr. : 2F11-40-063 Customer Nr. :																	
Comessa / Job: 2F11																					
Impianto / Plant: SABIZ																					
1																					
2																					
<table border="1"> <thead> <tr> <th>Item</th> <th>Service</th> <th>Item</th> <th>Service</th> </tr> </thead> <tbody> <tr> <td>62SR2</td> <td>BIN ACTIVATOR</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				Item	Service	Item	Service	62SR2	BIN ACTIVATOR												
Item	Service	Item	Service																		
62SR2	BIN ACTIVATOR																				
3																					
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7																					
PROCESS DATA																					
8		TYPE: PNEUMATIC	SERVICE TYPE: DISCONT.	Nr. of RUNNING UNITS/SPARE:	1 / 0																
9																					
10																					
11																					
12																					
13																					
14		Product Des. Flow , m3/h:	40	Max weight flow rate, Kg/h:	28000 <1>																
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47																					
PURCHASING INFORMATION																					
48		Manuf.: VIMEC	Model: VAR 2	Delivery:	R.d.A.: 720514																
49		Order nr: 121501	Order date: 18/06/2012	Weight, Kg: 0,8	Sz., AxBxC: 110x36x65 mm																
50																					
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0	ISSUED FOR BASIC ENGINEERING			01/03/2012	G. Dileo																
Rev.	DESCRIZIONE / DESCRIPTION			Data / Date	Autore / Author																

		FAN SPECIFICATION SHEET		Doc. Nr. : 2F11-40-068 Customer Nr. :
		Comessa / Job: 2F11		
		Impianto / Plant: SABIZ		
1				
2	Item	Service	Item	Service
3	62SR11 A/B	PNEUMATIC ACTIVATOR FOR 62V1		
4				
5				
6				
7	PROCESS DATA			
8	TYPE:	SERVICE TYPE: DISCONTIN.	Nr. of RUNNING UNITS/SPARE:	2 / 0
9				
10	A) PROCESS DATA			
11	- Treated solid	= SODIUM SULPHATE		
12	- Density	= 1'100 - 1'600 kg/m ³		
13	- Design flow rate			
14	. Weight	= 27000 Kg/h		
15	. Volume	= 24.5 m ³ /h (@ min. density)		
16				
17				
18	B) CONSTRUCTION MATERIAL	= Carbon steel		
19				
20				
21	C) DIMENSION	= See silo item 62V1 (see datasheet)		
22				
23				
24	D) COMPRESSED AIR DATA			
25	PRESSURE	= 6 barg		
26	DEW POINT	= +2 °C (@ ambiente pressure)		
27		=		
28				
29	E) ELECTRIC DATA			
30	- Power	= 415 Volts		
31	- Hertz	= 50		
32	- Phases	= 3+N		
33				
34				
35				
36				
37				
38				
39				
40				
41	Make request for spare parts offer:	For Nr.	years	
42	When ordering make request for Nr.	manuals in	language, and Nr.	in
43	NOTES: COMPLETE WITH AIR PRESSURE REDUCTION VALVES, SOLENOID VALVES AND PIPES CONNECTION			
44	ITEMS WILL VIBRATE ALTERNATELY			
45				
46				
47	PURCHASING INFORMATION			
48	Manuf.: VIMEC	Model: VAP 50	Delivery:	R.d.A.: 720514
49	Order nr: 121501	Order date: 18/06/2012	Weight, Kg: 4,5	Sz., AxBxC: 150x150x121 mm
50				
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FAN SPECIFICATION SHEET

Doc. Nr. : 2F11-40-069
Customer Nr. :

Comessa / Job: 2F11
Impianto / Plant: SABIZ

1	Item	Service	Item	Service
2	62SR22 A/B	PNEUMATIC ACTIVATOR FOR 62V2		
3				

PROCESS DATA

8 TYPE: SERVICE TYPE: DISCONTIN. Nr. of RUNNING UNITS/SPARE: 2 / 0

10 A) PROCESS DATA

- Treated solid = SODIUM CARBONATE
- Density = 540 - 1030 kg/m³
- Design flow rate
 - . Weight = 15000 Kg/h
 - . Volume = 28 m³/h (@ min. density)

18 B) CONSTRUCTION MATERIAL = Carbon steel

21 C) DIMENSION = See silo item 62V2 (see datasheet)

24 D) COMPRESSED AIR DATA

- PRESSURE = 6 barg
- DEW POINT = +2 °C (@ ambiente pressure)
- =

29 E) ELECTRIC DATA

- Power = 415 Volts
- Hertz = 50
- Phases = 3+N

41 Make request for spare parts offer: For Nr. years

42 When ordering make request for Nr. manuals in language, and Nr. in

43 NOTES: COMPLETE WITH AIR PRESSURE REDUCTION VALVES, SOLENOID VALVES AND PIPES CONNECTION

44 ITEMS WILL VIBRATE ALTERNATELY

PURCHASING INFORMATION

48 Manuf.: VIMEC Model: VAP 50 Delivery: R.d.A.: 720514
49 Order nr: 121501 Order date: 18/06/2012 Weight, Kg: 4,5 Sz., AxBxC: 150x150x121 mm

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		FAN SPECIFICATION SHEET		Doc. Nr. : 2F11-40-070
Comessa / Job: 2F11		Customer Nr. :		
Impianto / Plant: SABIZ				
1				
2	Item	Service	Item	Service
3	62SR33 A/B	PNEUMATIC ACTIVATOR FOR 62V3		
4				
5	PROCESS DATA			
6	8 TYPE: SERVICE TYPE: DISCONTIN.			
7	Nr. of RUNNING UNITS/SPARE: 2 / 0			
8				
9				
10	A) PROCESS DATA			
11	- Treated solid	= SODIUM CARBONATE		
12	- Density	= 650 - 800 kg/m3		
13	- Design flow rate			
14	. Weight	= 15000 Kg/h		
15	. Volume	= 23 m3/h (@ min. density)		
16				
17				
18	B) CONSTRUCTION MATERIAL	= Carbon steel		
19				
20				
21	C) DIMENSION	= See silo item 62V3 (see datasheet)		
22				
23				
24	D) COMPRESSED AIR DATA			
25	PRESSURE	= 6 barg		
26	DEW POINT	= +2 °C (@ ambiente pressure)		
27		=		
28				
29	E) ELECTRIC DATA			
30	- Power	= 415 Volts		
31	- Hertz	= 50		
32	- Phases	= 3+N		
33				
34				
35				
36				
37				
38				
39				
40				
41	Make request for spare parts offer:	For Nr.	years	
42	When ordering make request for Nr.	manuals in	language, and Nr.	in
43	NOTES: COMPLETE WITH AIR PRESSURE REDUCTION VALVES, SOLENOID VALVES AND PIPES CONNECTION			
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47	PURCHASING INFORMATION			
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		VIBRATOR SPECIFICATION SHEET		Doc. Nr. : 2F11-40-122 Customer Nr. :																	
Comessa / Job: 2F11																					
Impianto / Plant: SABIZ																					
1																					
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<table border="1"> <thead> <tr> <th>Item</th> <th>Service</th> <th>Item</th> <th>Service</th> </tr> </thead> <tbody> <tr> <td>64SR2A</td> <td>BIN ACTIVATOR</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						Item	Service	Item	Service	64SR2A	BIN ACTIVATOR										
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3																					
4																					
5																					
6																					
7																					
PROCESS DATA																					
8		TYPE: PNEUMATIC	SERVICE TYPE: DISCONT.	Nr. of RUNNING UNITS/SPARE:	1 / 0																
9																					
10																					
11																					
12																					
13																					
14		Product Des. Flow , m3/h: 2	Max weight flow rate, Kg/h:	800																	
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47																					
PURCHASING INFORMATION																					
48		Manuf.: VIMEC	Model: VAP 30	Delivery:	R.d.A.: 720514																
49		Order nr: 121501	Order date: 18/06/2012	Weight, Kg: 2,2	Sz., AxBxC: 115x115x92 mm																
50																					
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		VIBRATOR SPECIFICATION SHEET		Doc. Nr. : 2F11-40-123 Customer Nr. :			
Comessa / Job: 2F11							
Impianto / Plant: SABIZ							
1							
2	Item	Service	Item	Service			
3	64SR2B	BIN ACTIVATOR					
4							
5							
6							
7	PROCESS DATA						
8	TYPE: PNEUMATIC	SERVICE TYPE: DISCONT.	Nr. of RUNNING UNITS/SPARE:	1	/ 0		
9							
10							
11	PRODUCT: ZEOLITE						
12	PRODUCT DENSITY: 430-600 KG/M3						
13							
14	Product Des. Flow , m3/h: 2		Max weight flow rate, Kg/h:	800			
15							
16							
17	SEE ITEM ITEM 64V						
18							
19							
20	EL. POWER : 415 V/ 50 HZ / 3 PH.						
21	TROPICALIZATION : YES						
22	INS. CLASS: IP 55						
23							
24							
25							
26							
27							
28							
29							
30							
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37							
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41	Make request for spare parts offer:	For Nr.	years				
42	When ordering make request for Nr.	manuals in	language, and Nr.	in italian language			
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46							
47	PURCHASING INFORMATION						
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50							
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VIMEC

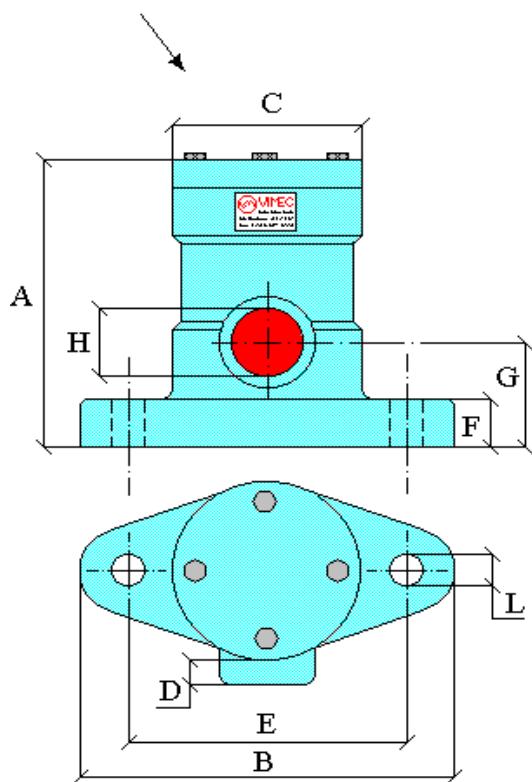
Macchine Vibranti e Impianti
Divisione di T.V.V. S.p.A.

SEPTEMBER 2005

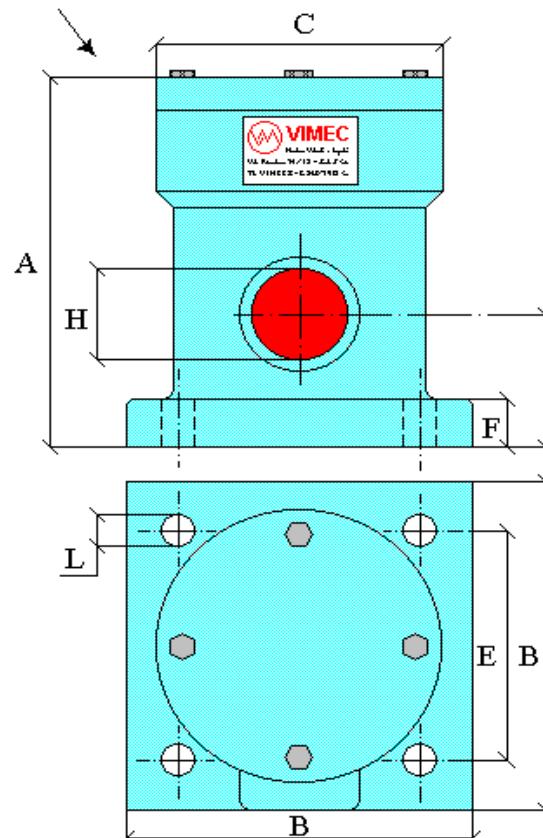
PNEUMATIC VIBRATORS
PISTON equipped **VAP-W**

BALLESTRA JOB No. :	2F11
BALLESTRA ITEM No. :	62SR11 A/B - 62SR22 A/B - 62SR33 A/B - 64SR2 A/B
BALLESTRA ORDER No. :	121501 of 18/06/2012

VAP-W 30 and 50



VAP-W 75



TYPE	MAIN FEATURES				DIMENSION (mm)									
	Pulses (per minute)	Air consumption (lt/sec)	Weight (Kg)	Operational pressure (bar)	A	B	C	D	E	F	G	H	L	
	3500	3,3	2,2	6	92	115	58	12	85	22	30	1/4"	13	
VAP-W 30	3500	3,3	2,2	6	92	115	58	12	85	22	30	1/4"	13	
VAP-W 50	3000	5	4,5	6	121	150	75	18	110	25	45	3/8"	16,5	
VAP-W 75	2100	7	11	6	163	142	115	-	100	26	60	2x1/2"	17	

The consumption air is for operational pressure of 6 bar at 20°C



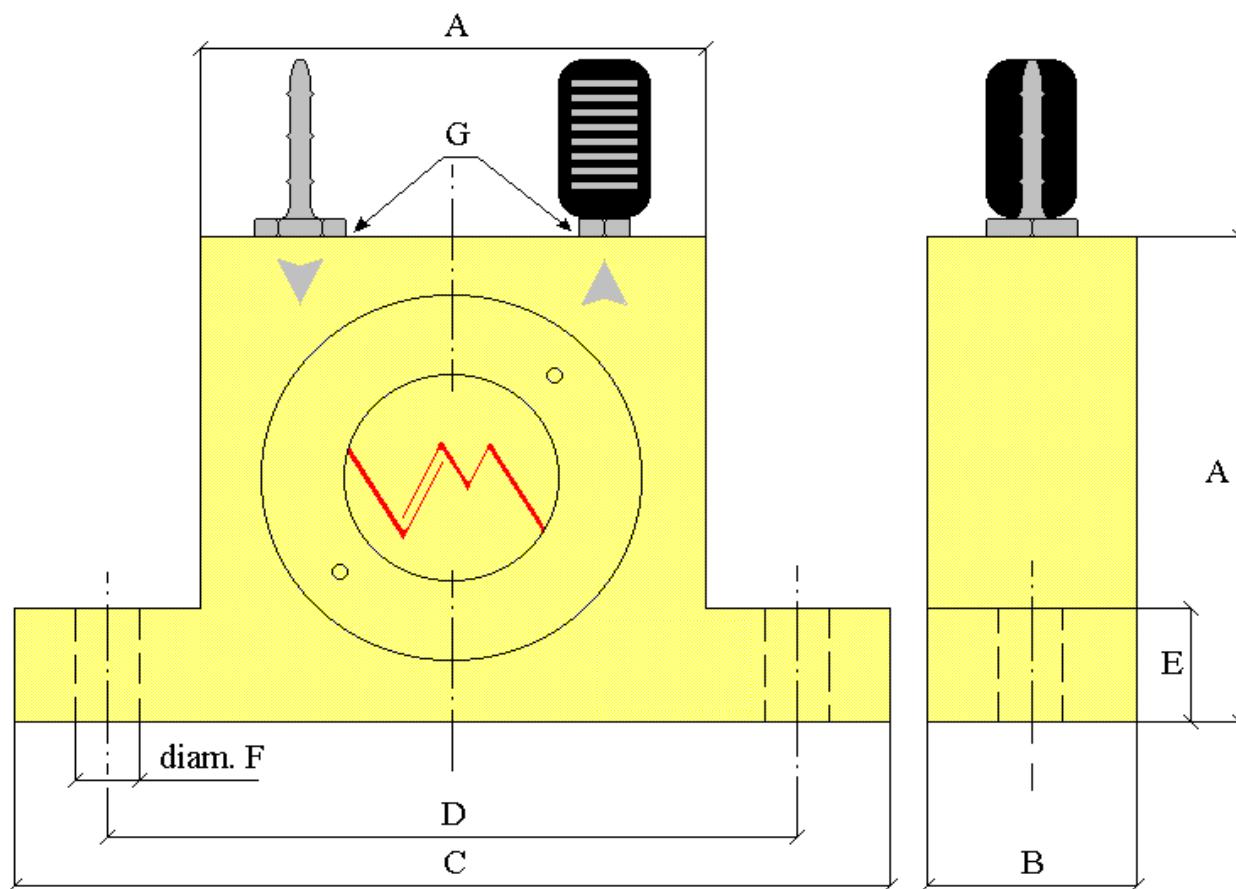
VIMEC

Macchine Vibranti e Impianti
Divisione di T.V.V. S.p.A.

JANUARY 1997

PNEUMATIC VIBRATORS ROLL equipped VAR

BALLESTRA JOB No. :	2F11
BALLESTRA ITEM No. :	62SR2
BALLESTRA ORDER No. :	121501 of 18/06/2012



TYPE	MAIN FEATURES				DIMENSIONS (mm.)						
	Vibrations (per minute)	Centrifugal F. (N.)	Air consumpt. (lt. / sec.)	Weight (Kg.)	A	B	C	D	E	F	G
	ROLL equipped - Type VAR:										
VAR 1	40000	2800	3,2	0,38	50	30	86	68	12	7	1/8"
VAR 2	29500	4900	6,6	0,78	65	36	110	90	16	9	1/4"
VAR 3	25000	7800	9,5	1,3	80	42	130	104	18	9	1/4"
VAR 4	17600	9700	12	2,55	100	52	160	130	20	11	3/8"

The air consumption is for pressure of 6 BAR (90 PSI) and temperature of 20°C

DESCRIPTION

Pressure reducers series "EZRR" are produced with connections G 3/8, G 1/2 and G 1; they are available with different scales of regulation and can be supplied without the relieving seal on request.

TECHNICAL DATA

Maximum pressure	16 bar
Working temperature	0 ÷ +50 °C (-10 °C with dry air)
Fluid	Filtered, lubricated and unlubricated compressed air
Port size	G 3/8 - G 1/2 - G1
Pressure gauge port size	G 1/8
Adjusting range (bar)	0,2 ÷ 2 - 0,4 ÷ 4 - 0,8 ÷ 8
Type of mounting	Modular, in-line, wall and panel mounting
Wall clamping screws	G 3/8: M4x60 G 1/2: M5x70 G 1: M6x90



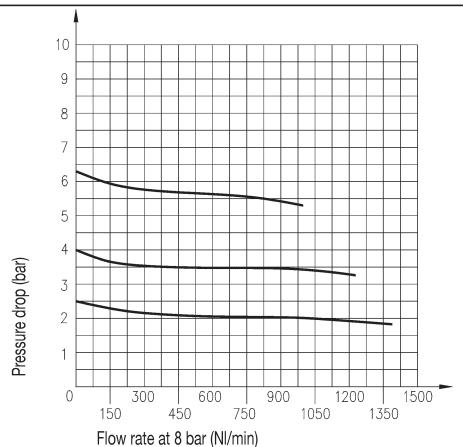
MATERIALS

Body	Aluminium alloy
Closing plug	Brass, NBR rubber
Spring	Stainless steel
Knob	Acetal resin
Adjusting screw	Brass
Diaphragm	Brass, friction

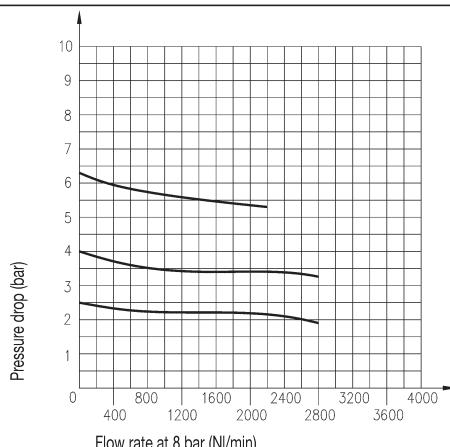
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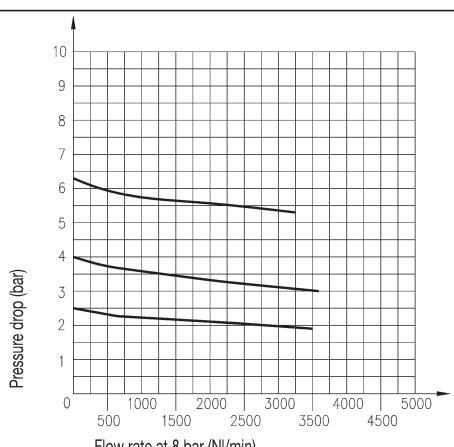
FLOW CHART - EZRR G 3/8



FLOW CHART - EZRR G 1/2



FLOW CHART - EZRR G 1



ORDER KEY

EZRR		
Series		
Size		
Adjusting range		

SIZE

3 G 3/8

2 G 1/2

1 G 1

ADJUSTING RANGE

/3 0,2 ÷ 2 bar

/5 0,4 ÷ 4 bar

/7 0,8 ÷ 8 bar

P.S.: Reducers can be supplied without the relieving seal on request; the series becomes "EZR..."

SPARE PARTS

Relieving kit adjustment size 3

EZRR3/SG/6

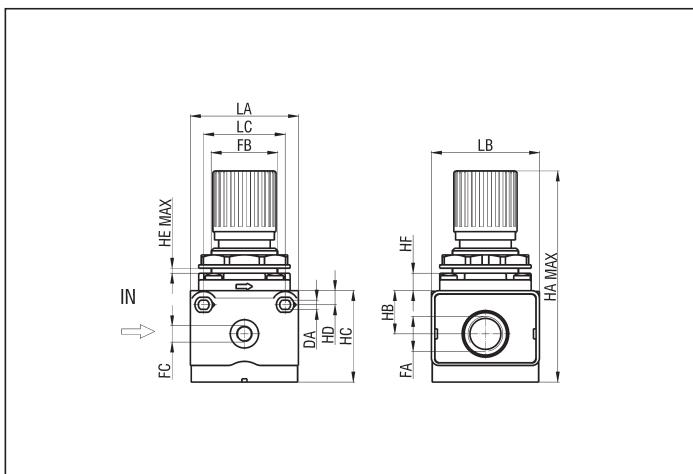
Relieving kit adjustment size 2

EZRR2/SG/6

Relieving kit adjustment size 1

EZRR1/SG/6

DIMENSIONS AND WEIGHTS EZRR



SIZE	DA	FA	FB	FC	HA	HB	HC	HD	HE	HF	LA	LB	LC	WEIGHT (g)
3	4,5	G 3/8	M30x1,5	G 1/8	99	21	48	6	4	6	55	50	40	450
2	5,5	G 1/2	M40x1,5	G 1/8	127	26	55	8,5	7	10,5	65	65	49	465
1	6,6	G 1	-	G 1/8	194,5	31	76	9	-	14	85	82	60	2385

Direct acting solenoid valves side 32 mm

series **UL**

DESCRIPTION

The direct acting solenoid valves series "UL" are produced in conformity with the Directives EC 89/336, EC 92/31, EC 93/68, EC 73/23 in the 3/2 N.O. (with feed from the exhaust "3") and 3/2 N.C. pneumatic functions. The function 2/2 is obtainable closing exhaust "3". Besides are available the versions with ports G 1/8, suitable for single use, and with interface for multi-station base mounting or for mounting on poppet and to ex CETOP RP 32 P (with fixed position) valve bodies.

TECHNICAL DATA

Operating pressure	0 ÷ 10 bar
Working temperature	0 ÷ +50 °C (-20 °C with dry air)
Fluid	Filtered, unlubricated or continuous lubricated compressed air
Nominal diameter	2 mm
Max. operating frequency	≤13 Hz
Coil	Integrated in the body
Voltages	DC: 24 V AC: 24 - 110 - 220 V
Apparent power	DC: 7 W AC: 17 VA (inrush) - 10 VA (holding)
Voltage tolerance	-15% +15%
Protection class	IP 65
Insulation class	F
Solenoid rating	ED 100%
Electric connector	ULR1B - see chapter Connectors on page 2.15

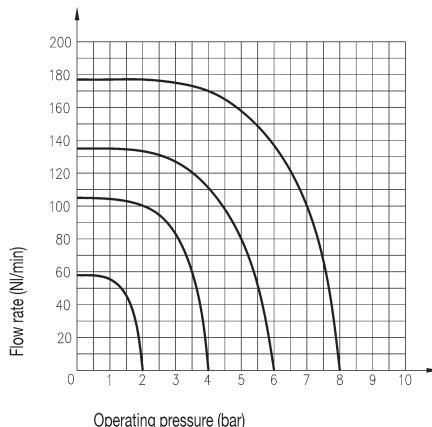
MATERIALS

Core	IMRE
Body ported G 1/8	Zamak
Body with interface	Glass stiffened polyamide (zamak upon request)
Springs	Stainless steel
Seals	Viton®
Manual override	Acetal resin



2

FLOW CHART - UL



3 PORT G 1/8 SIDE 32 mm

Symbol	Function	Controls		Response time at 6 bar (ms)		Flow rate at 6 bar $\Delta P = 1$ bar (NL/min)	Manual override	Weight (g)	TYPE*
		Pilot	Return	Pilot	Return				
	3/2 N.O.**	Solenoid	Mechanical spring	15	20	80	-	240	ULARG/R
	3/2 N.C.	Solenoid	Mechanical spring	15	20	80	-	240	ULCRG/R
	3/2 N.O.**	Solenoid	Mechanical spring	15	20	80	Manual bistable	240	ULARV/R
	3/2 N.C.	Solenoid	Mechanical spring	15	20	80	Manual bistable	240	ULCRV/R

* SPECIFY THE VOLTAGE IN THE ORDER
E.G.: ULARG/R02450-60

02400 = 24 V DC 11050-60 = 110 V AC
02450-60 = 24 V AC 22050-60 = 220 V AC

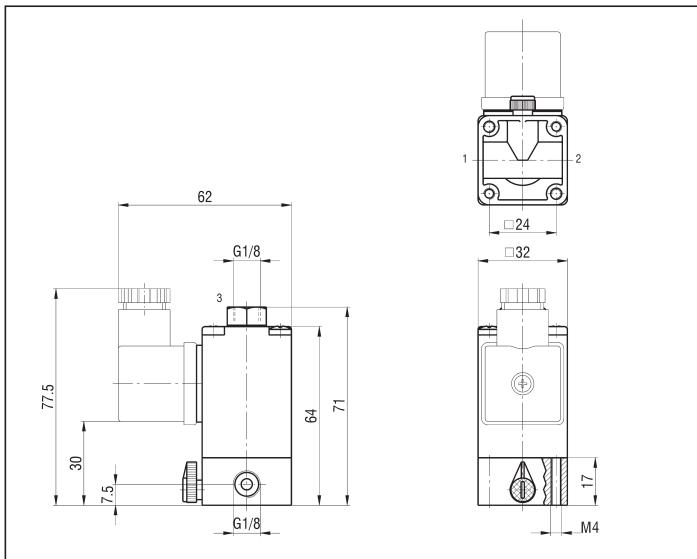
** For version N.O. arrange the connections as indicated:

- 1 = EXHAUST
- 2 = OUTPUT
- 3 = INPUT

series UL

Direct acting
solenoid valves side 32 mm

3 PORT G 1/8



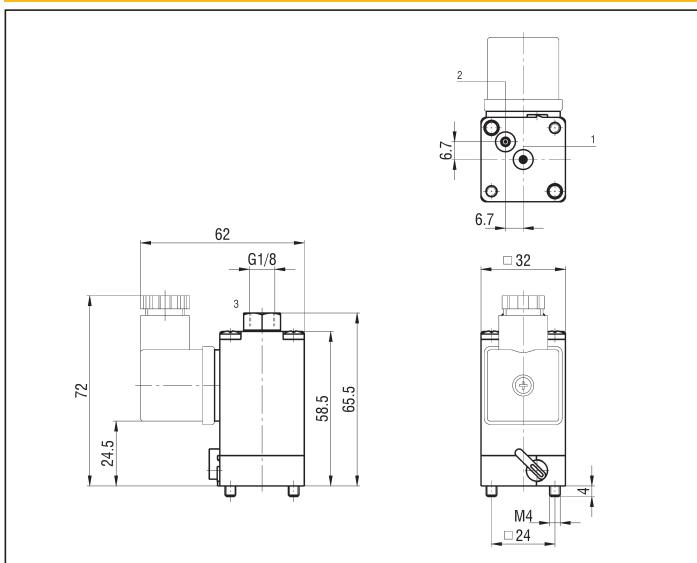
3 PORT WITH INTERFACE FOR MULTI-STATION BASES AND POPPET / ex CETOP VALVES (WITH FIXED POSITION)

Symbol	Function	Controls		Response time at 6 bar (ms)		Flow rate at 6 bar $\Delta P = 1 \text{ bar (NL/min)}$	Manual override	Weight (g)	TYPE*
		Pilot	Return	Pilot	Return				
	3/2 N.O.	Solenoid	Mechanical spring	15	20	80	-	200	ULASG/R
	3/2 N.C.	Solenoid	Mechanical spring	15	20	80	-	200	ULCSG/R
	3/2 N.O.	Solenoid	Mechanical spring	15	20	80	Manual bistable	200	ULASV/R
	3/2 N.C.	Solenoid	Mechanical spring	15	20	80	Manual bistable	200	ULCSV/R

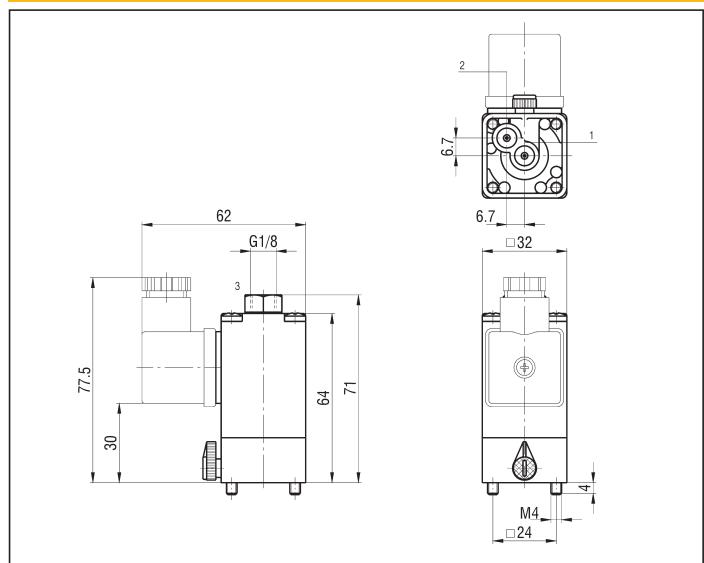
* SPECIFY THE VOLTAGE IN THE ORDER 02400 = 24 V DC 11050-60 = 110 V AC
E.G.: ULARG/R02450-60 02450-60 = 24 V AC 22050-60 = 220 V AC

P.S. 1: For body valve in zamak add the letter "A" to the type.
E.G.: 3/2 N.C. with manual override, body in zamak ULCSV/RA + voltage.
P.S. 2: For body valve in plastic and universal interface strip change the letter "R" of the type with the letter "U".
E.G.: 3/2 N.C. with manual override, body in plastic ULCSV/U + voltage.

3 PORT WITH PLASTIC INTERFACE STRIP



3 PORT WITH ZAMAK INTERFACE STRIP



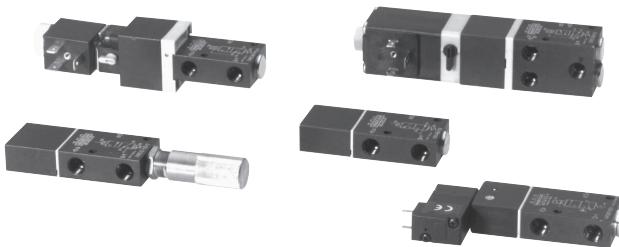
series UK

Poppet valves pilot and solenoid actuated G 1/8 - G 1/4 - G 1/2 - G 1

DESCRIPTION

Valves series "UK" are produced in the 2/2, 3/2 and 5/2 monostable pneumatic functions. In the 3 port solenoid control version with small pilot system, sizes G 1/8 and G 1/4, support the 15 mm direct acting solenoid valve (type UMCSV with fixed position). All the other electric versions can support the 32 mm direct acting solenoid valve, type ULCSV/R (with fixed position), type C/USCSVG with sleeve Ø 9 mm (with fixed position and rotatable coils series USB and USBG) or the amplifier valve XVF4 for a sensible pneumatic piloting (see page 3.36). The 3/2 N.C. pilot actuated valves can also be used to switch vacuum thanks to a suitably reinforced spring.

The poppet design assures high flow and high life. This series of valves, in the sizes G 1/8, G 1/4 and G 1/2, is prearranged for base mounting with conveyed inlet by means of rear notch screws.



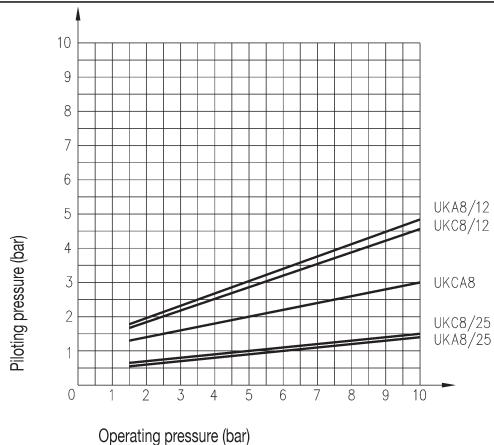
TECHNICAL DATA

Operating pressure	Solenoid actuated: 1,5 ÷ 10 bar Pilot actuated: 1,5 ÷ 12 bar
Working temperature	0 ÷ +70 °C (-20 °C with dry air)
Fluid	Filtered, unlubricated or lubricated compressed air - vacuum
Port size	G 1/8 - G 1/4 - G 1/2 - G 1
Pneumatic piloting port size	G 1/8
Nominal diameter	G 1/8 = 6 mm; G 1/4 = 8,5 mm; G 1/2 = 12 mm; G 1 = 23 mm
Piloting solenoid valves	UMCSV - see chapter Direct acting solenoid valves on page 2.3 ULCSV/R - see chapter Direct acting solenoid valves on page 2.6 C/USCSVG - see chapter Direct acting solenoid valves on page 2.13
Pneumatic piloting valve	XVF4 - see chapter Complementary valves on page 3.37
Coils (only for C/USCSVG)	USB - see chapter Coils on page 2.14 USBG - see chapter Coils on page 2.14
Electric connectors	USR 102/N9 - see chapter Connectors on page 2.15 ULR1B - see chapter Connectors on page 2.15 MEK 192/N - see chapter Connectors on page 2.15

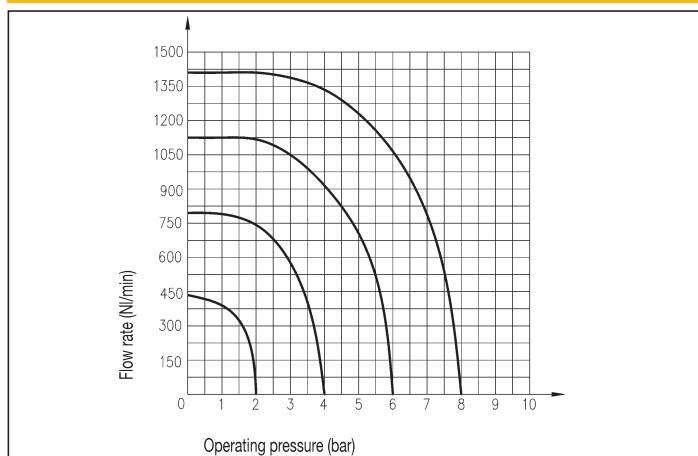
MATERIALS

Control rod	Hardened and nickel-plated steel
Body	Anodized aluminium alloy
Springs	Stainless steel
Seals	NBR rubber
Bush rod	Brass
Piston	Acetal resin
Terminal strip	Acetal resin
Washer	Brass
End plug	Nickel-plated brass
Clamping screws	Steel

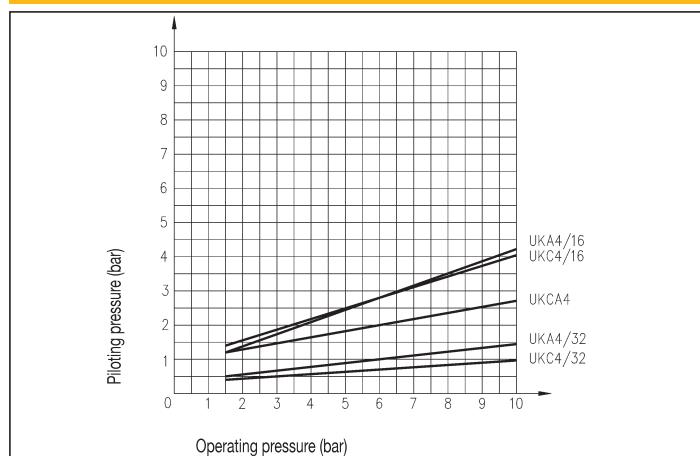
PILOTING CHART - UK G 1/8



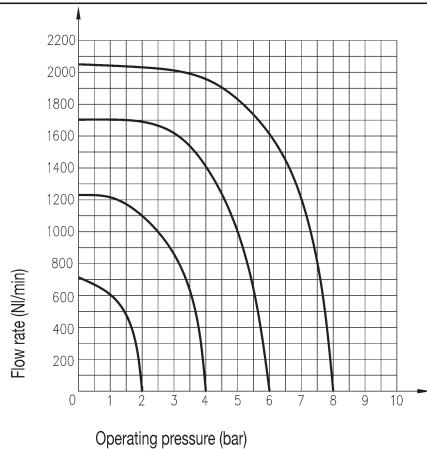
FLOW CHART - UK G 1/8 - 5/2



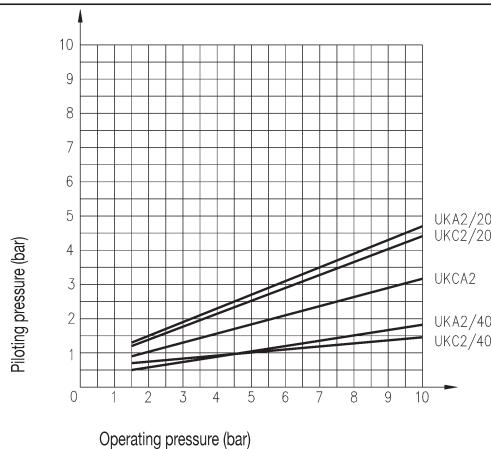
PILOTING CHART - UK G1/4



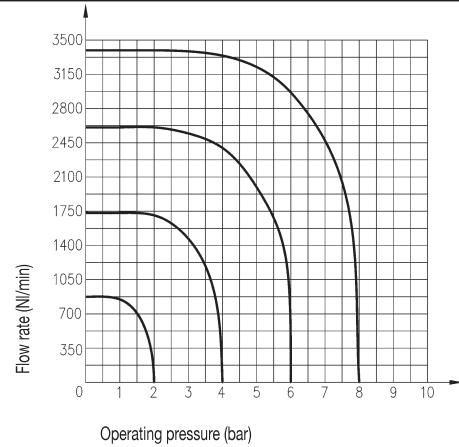
FLOW CHART - UK G 1/4 - 5/2



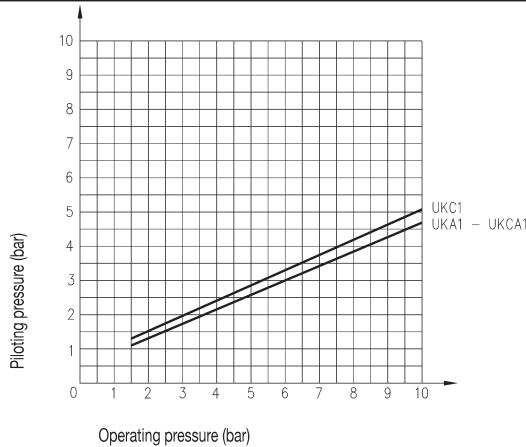
PILOTING CHART - UK G 1/2



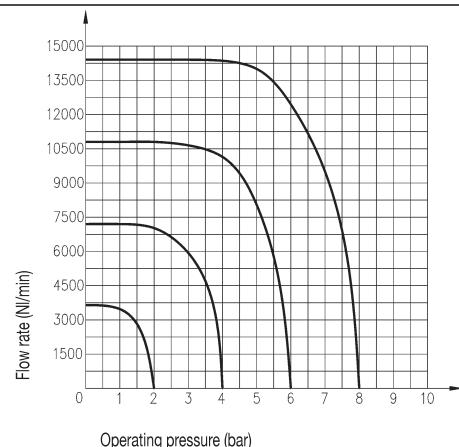
FLOW CHART UK - G 1/2 - 5/2



PILOTING CHART - UK G 1



FLOW CHART - UK G 1 - 5/2



SPARE PARTS

SEALS KIT

3/2 N.O. G 1/8 small pilot system	UKA12/SG/8
3/2 N.C. G 1/8 small pilot system	UKC12/SG/8
3/2 N.O. G 1/8 big pilot system	UKA25/SG/8
3/2 N.C. G 1/8 big pilot system	UKC25/SG/8
5/2 G 1/8	UKCA/SG/8
3/2 N.O. G 1/4 small pilot system	UKA16/SG/4
3/2 N.C. G 1/4 small pilot system	UKC16/SG/4
3/2 N.O. G 1/4 big pilot system	UKA32/SG/4
3/2 N.C. G 1/4 big pilot system	UKC32/SG/4
5/2 G 1/4	UKCA/SG/4
3/2 N.O. G 1/2 small pilot system	UKA20/SG/2
3/2 N.C. G 1/2 small pilot system	UKC20/SG/2
3/2 N.O. G 1/2 big pilot system	UKA40/SG/2
3/2 N.C. G 1/2 big pilot system	UKC40/SG/2
5/2 G 1/2	UKCA/SG/2
3/2 N.O. G 1	UKA/SG/1
3/2 N.C. G 1	UKC/SG/1

series UK

PILOT ACTUATED VALVES* G 1/8 - 2, 3 and 5 PORT

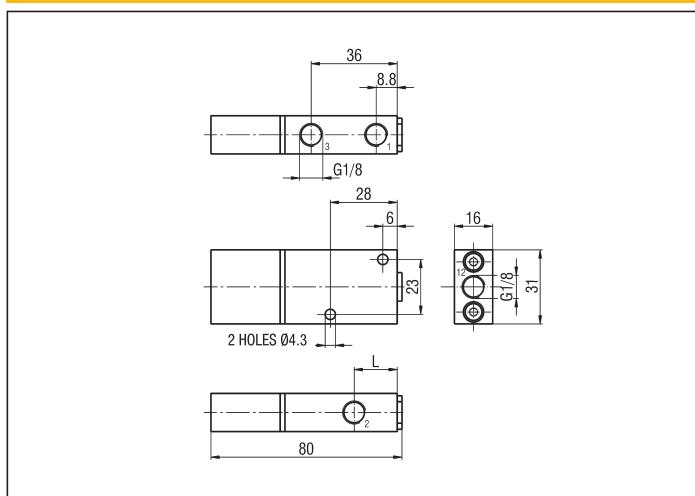
Symbol	Function	Controls		Response time at 6 bar (ms)		Flow rate at 6 bar $\Delta P = 1 \text{ bar (Nl/min)}$	Weight (g)	TYPE*
		Pilot	Return	Energized	De-energized			
	3/2 N.O. monostable	Small pneumatic	Mechanical spring	18	34	700	115	UKA 8/12
		Small pneumatic	Mechanical spring	20	29	700	115	UKC 8/12
		Servo fed small pneumatic	Mechanical spring	20	29	700	115	UKC 8/12/SA
		Adjustable small pneumatic	Mechanical spring	-	-	700	180	UKC 8/12/T
	3/2 N.O. monostable	Big pneumatic	Mechanical spring	18	38	700	135	UKA 8/25
		Big pneumatic	Mechanical spring	18	38	700	135	UKC 8/25**
		Servo fed big pneumatic	Mechanical spring	18	38	700	135	UKC 8/25/SA
		Adjustable big pneumatic	Mechanical spring	-	-	700	200	UKC 8/25/T
	5/2 monostable	Pneumatic	Mechanical spring	19	40	650	195	UKCA8
		Servo fed pneumatic	Mechanical spring	19	40	650	195	UKCA8/SA

* FOR THE PILOT ACTUATED VALVES OBTAINABLE WITH XVF4 SEE THE TABLE SOLENOID ACTUATED VALVES ON PAGE 2.64

** IF THE TYPE INCLUDES THE SUFFIX "/MR," THIS VALVE CAN BE USED TO SWITCH VACUUM

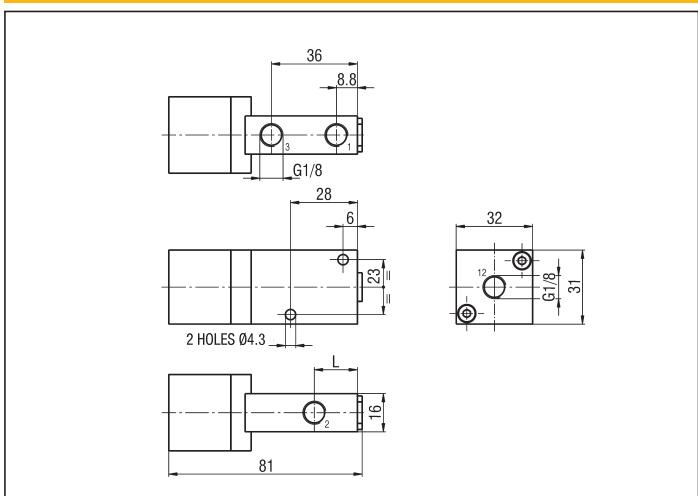
P.S.: ADD AT THE TYPE OF THE VALVES 3/2 THE LETTER "H" BETWEEN THE LETTERS "K" AND "A" (OR "C") TO ORDER 2/2 N.O. (OR 2/2 N.C.) VALVES.
E.G.: UKHA 8/12; UKHC 8/25

3 PORT SMALL PNEUMATIC

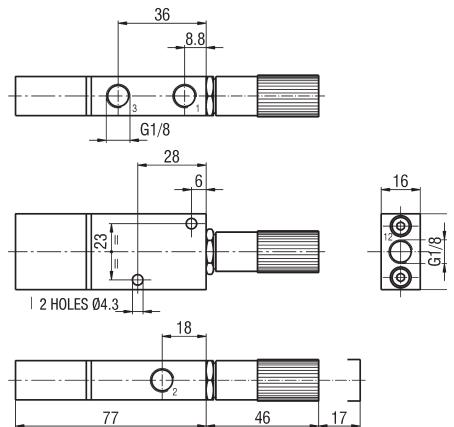


FUNCTION	L
3/2 N.O.	23
3/2 N.C.	18

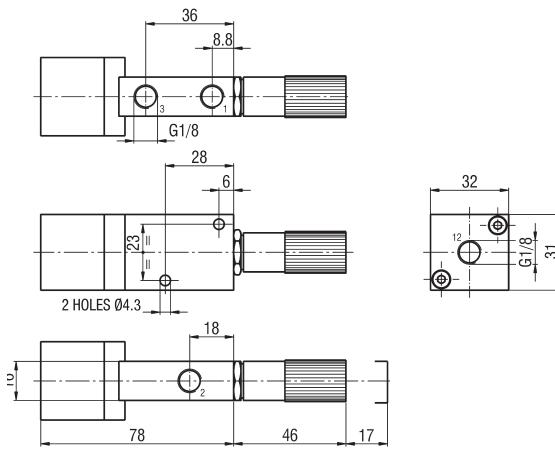
3 PORT BIG PNEUMATIC



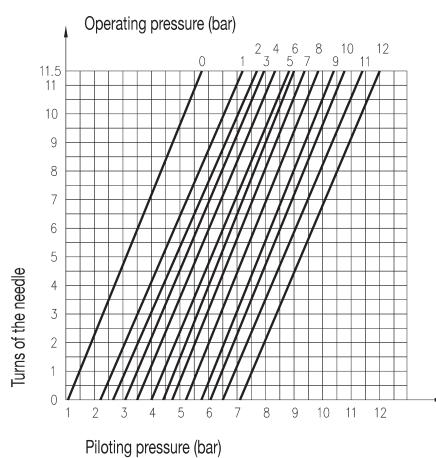
UKC 8/12/T



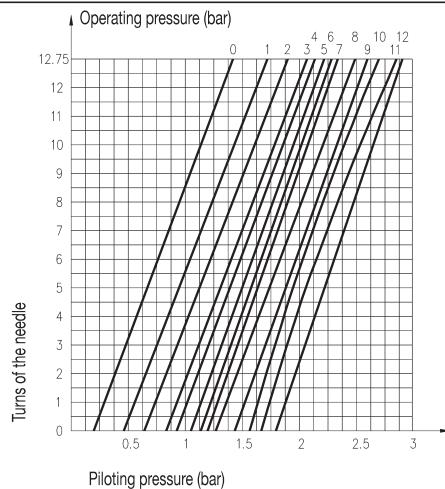
UKC 8/25/T



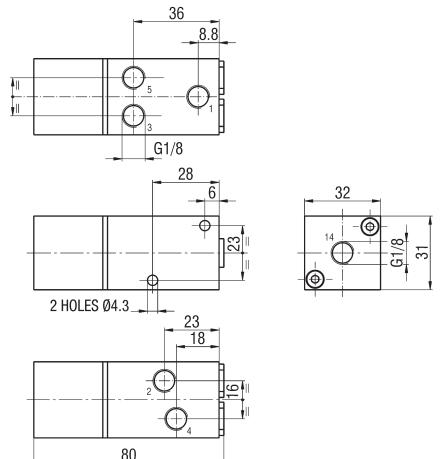
SPRING CALIBRATION UKC8/12/T



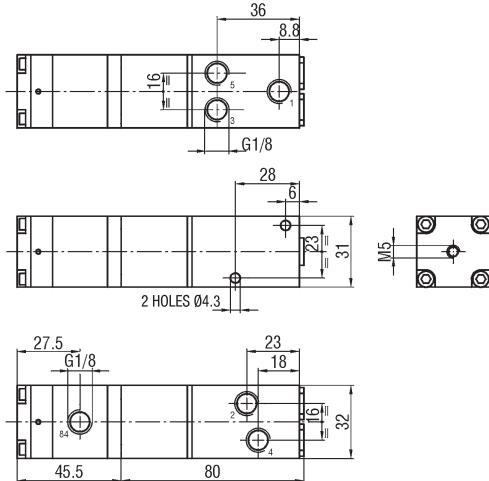
SPRING CALIBRATION UKC8/25/T



5 PORT



5 PORT WITH XVF4



series UK

SOLENOID ACTUATED VALVES G 1/8 - 2, 3 and 5 PORT

Symbol	Function	Controls		Response time at 6 bar (ms)		Flow rate at 6 bar $\Delta P = 1 \text{ bar (NL/min)}$	Weight (g)	type
		Pilot	Return	Energized	De-energized			
10	3/2 N.O. monostable	Small solenoid	Mechanical spring	10	28	700	108	UKA 8/12/U*
12	3/2 N.C. monostable	Small solenoid	Mechanical spring	10	28	700	108	UKC 8/12/U*
10	3/2 N.O. monostable	Big solenoid	Mechanical spring	18	38	700	135	UKA 8/25/U**
12	3/2 N.C. monostable	Big solenoid	Mechanical spring	18	38	700	135	UKC 8/25/U**
14	5/2 monostable	Solenoid	Mechanical spring	19	40	650	203	UKCA 8/U**

* TYPES OF THESE SOLENOID VALVES INCLUDE THE PILOTING SOLENOID VALVES "UMCSV" - SEE ON PAGE 2.3 (SPECIFY THE VOLTAGE IN THE ORDER)

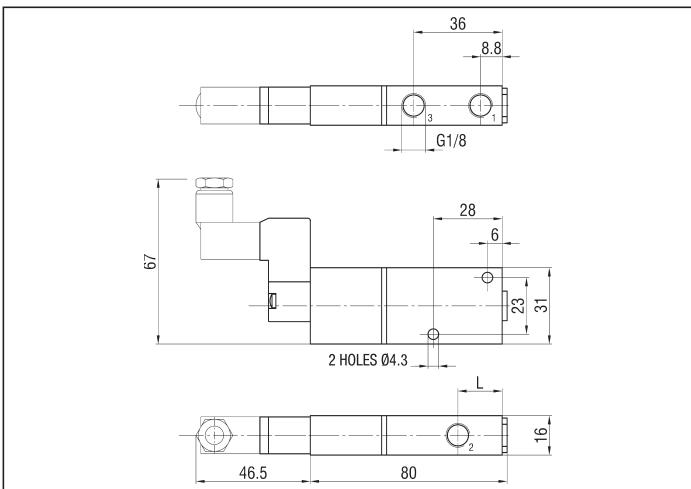
** TYPES OF THESE SOLENOID VALVES DO NOT INCLUDE THE PILOTING SOLENOID VALVES (SEE ON PAGE 2.6 FOR "ULCSV/R" AND ON PAGE 2.13 FOR "C/USCSVG")

WHEREAS USING AS PILOT THE VALVE "XVF4" THE RESULT IS A LOW PRESSURE PILOT ACTUATED VALVE (FOR "XVF4" - SEE ON PAGE 3.37)

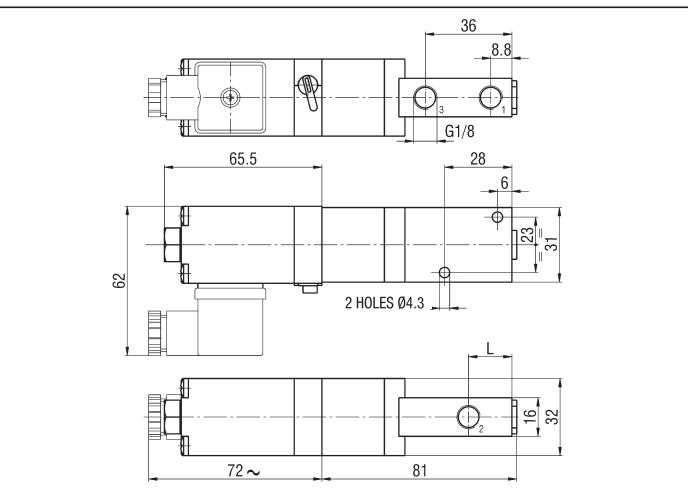
P.S.: ADD AT THE TYPE OF THE VALVES 3/2 THE LETTER "H" BETWEEN THE LETTERS "K" AND "A" (OR "C") TO ORDER 2/2 N.O. (OR 2/2 N.C.) VALVES.

E.G.: UKHA 8/12/U; UKHC 8/25/U

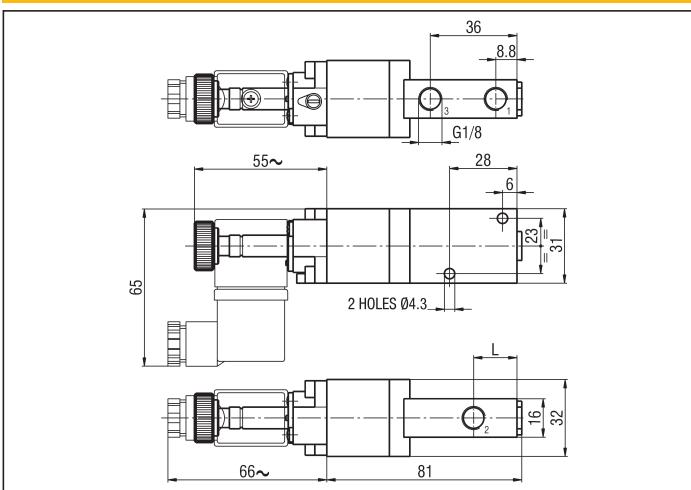
3 PORT SMALL SOLENOID



3 PORT BIG SOLENOID WITH ULCSV/R



3 PORT BIG SOLENOID WITH C/USCSVG



FUNCTION	L
3/2 N.O.	23
3/2 N.C.	18

series MA

Air treatment accessories:
pressure gauges Ø 40 - 50 - 63 - 100

DESCRIPTION

Pressure gauges allow sensing the pressure in the pneumatic circuits. They are suitable to be applied directly on the pressure regulator or for panel mounting and they are available in the versions: axial (MA), radial (MR), with flange (MF) and with bracket (MP), in the bore 40 - 50 - 63 - 100.

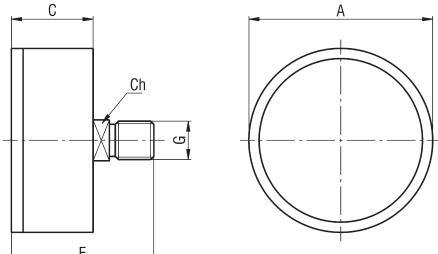


TECHNICAL DATA

Operating pressure	0 ÷ 1 bar - 0 ÷ 4 bar - 0 ÷ 6 bar - 0 ÷ 12 bar
Working temperature	0 ÷ +70 °C (-20 °C with dry air)
Fluid	Filtered, unlubricated or continuous lubricated compressed air
Accuracy	Cl. 1.6 (DIN 16005 EN 837-1)
Dial	Ø 40 - 50 - 63 - 100
Port size	G 1/8 - G 1/4
Fixing	Type MA - Direct axial mounting Type MR - Direct radial mounting Type MF - Panel mounting with flange Type MP - Panel mounting with bracket

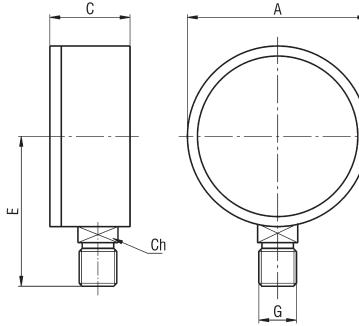
4

AXIAL GAUGES TYPE MA



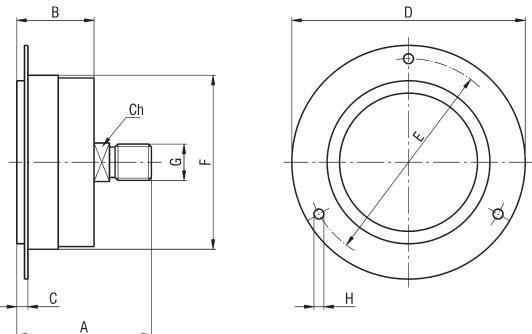
G	A	C	Ch	E	TYPE				WEIGHT (g)
					0 ÷ 1 bar	0 ÷ 4 bar	0 ÷ 6 bar	0 ÷ 12 bar	
G 1/8	40	24	12	40	MA 4/1	MA 4/4	MA 4/6	MA 4/12	48
G 1/8	52	28	14	52	MA 5/1	MA 5/4	MA 5/6	MA 5/12	75
G 1/4	63	29,5	14	54	MA 6/1	MA 6/4	MA 6/6	MA 6/12	90
G 3/8	100	36	17	65	-	-	-	MA 10/12	230

RADIAL GAUGES TYPE MR



G	A	C	Ch	E	TYPE				WEIGHT (g)
					0 ÷ 1 bar	0 ÷ 4 bar	0 ÷ 6 bar	0 ÷ 12 bar	
G 1/8	40	24	12	37	MR 4/1	MR 4/4	MR 4/6	MR 4/12	42
G 1/8	51	28	14	48	MR 5/1	MR 5/4	MR 5/6	MR 5/12	68
G 1/4	63	29,5	14	54	MR 6/1	MR 6/4	MR 6/6	MR 6/12	84
G 3/8	100	36	17	78	-	-	-	MR 10/12	230

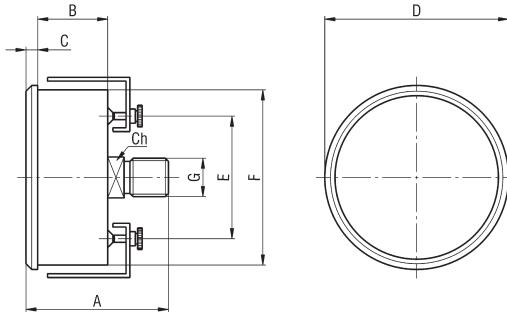
AXIAL GAUGES WITH FLANGE TYPE MF



G	A	B	C	Ch	D	E	F	H
G 1/8	40,5	25,5	4	11	61	51	40,5	3,6
G 1/8	45	29	4	14	74,5	60	52,5	3,6
G 1/4	46,5	30	5,5	14	84,7	75	63,7	3,6
G 3/8	61	30	5	17	132	118	100,5	6

G	D	TYPE				WEIGHT (g)
		0 ÷ 1 bar	0 ÷ 4 bar	0 ÷ 6 bar	0 ÷ 12 bar	
G 1/8	61	MF 4/1	MF 4/4	MF 4/6	MF 4/12	82
G 1/8	74,5	MF 5/1	MF 5/4	MF 5/6	MF 5/12	120
G 1/4	84,7	MF 6/1	MF 6/4	MF 6/6	MF 6/12	150
G 3/8	132	-	-	-	MF 10/12	250

AXIAL GAUGES WITH BRACKET TYPE MP



G	A	B	C	Ch	D	E	F
G 1/8	43	21	5	12	43	28	39
G 1/8	46	23	6	14	55,5	35	49
G 1/4	48	23	6	14	63,8	43	59

G	D	TYPE				WEIGHT (g)
		0 ÷ 1 bar	0 ÷ 4 bar	0 ÷ 6 bar	0 ÷ 12 bar	
G 1/8	43	MP 4/1	MP 4/4	MP 4/6	MP 4/12	82
G 1/8	55,5	MP 5/1	MP 5/4	MP 5/6	MP 5/12	120
G 1/4	63,8	MP 6/1	MP 6/4	MP 6/6	MP 6/12	150



RACCORDI E TUBAZIONI PNEUMATICHE



20095 CUSANO MILANINO (MI) – VIA MONTE BIANCO 2

TEL. 02/6198256 – 02/6194748 FAX 02/6133611

www.atemi.it - e-mail: info@atemi.it

TUBO IN RILSAN PA11 - PHL TUBI LINEARI FLESSIBILI



Temperatura: -40°C a +80°C

MENSIONI		RAGGIO DI CURVATURA	PRESSIONI A 20°C		CODICE
Ø e	Ø i	Mm	SCOPPIO	ESERCIZIO	
1.1	0.5	10	150	50	METR0.5X1.1PA11
2	1	10	133	44	METR1X2PA11
2	1.5	20	57	19	METR1.5X2PA11
2.5	1.5	20	100	33	METR1.5X2.5PA11
2.5	1.6	20	88	29	METR1.6X2.5PA11
3	1	15	200	67	METR1X3PA11
3	1.5	12	133	44	METR1.5X3PA11
3	2	15	80	27	METR2X3PA11
3	2.5	25	36	12	METR2.5X3PA11
3.17	1.6	10	132	44	METR1.6X3.17PA11
3.17	2.18	20	74	25	METR2.18X3.17PA11
3.5	3	30	31	10	METR3X3.5PA11
4	1	10	240	80	METR1X4PA11
4	1.5	15	182	61	METR1.5X4PA11
4	2	20	133	44	METR2X4PA11
4	2.3	20	108	36	METR2.3X4PA11
4	2.5	20	92	31	METR2.5X4PA11
4	2.7	25	78	26	METR2.7X4PA11
4	3	25	57	19	METR3X4PA11
4	3.5	35	27	9	METR3.5X4PA11
4.75	3.1	30	84	28	METR3.1X4.75PA11
5	3	25	100	33	METR3X5PA11
5	3.25	27	85	28	METR3.25X5PA11
5	3.5	30	71	24	METR3.5X5PA11
5	4	50	44	15	METR4X5PA11
6	3	30	133	44	METR3X6PA11
6	3.5	30	105	35	METR3.5X6PA11
6	3.6	30	100	33	METR3.6X6PA11
6	4	35	80	27	METR4X6PA11
6	4.5	40	57	19	METR4.5X6PA11
6.35	4.35	40	75	25	METR4.35X6.35PA11
7	4	45	109	36	METR4X7PA11
7	5	38	67	22	METR5X7PA11
7.93	6.35	50	44	15	METR6.35X7.93PA11
8	4	40	133	44	METR4X8PA11
8	5	40	92	31	METR5X8PA11
8	6	40	57	19	METR6X8PA11
9	7	55	50	17	METR7X9PA11
9.52	7	50	61	20	METR7X9.52PA11
10	6	60	100	33	METR6X10PA11
10	6.5	60	85	28	METR6.5X10PA11
10	7	60	71	24	METR7X10PA11
10	7.5	50	57	19	METR7.5X10PA11
10	8	60	44	15	METR8X10PA11
12	8	60	80	27	METR8X12PA11
12	9	70	57	19	METR9X12PA11
12	10	85	36	12	METR10X12PA11
12.7	9.52	65	57	19	METR9.52X12.7PA11
14	10	80	67	22	METR10X14PA11
14	11	85	48	16	METR11X14PA11
14	12	90	31	10	METR12X14PA11
15	11	90	62	21	METR11X15PA11
15	12	90	44	15	METR12X15PA11
15	12.5	100	36	12	METR12.5X15PA11
15	13	95	29	10	METR13X15PA11
16	12	95	57	19	METR12X16PA11
16	14	100	27	9	METR14X16PA11
18	14	100	50	17	METR14X18PA11
18	15	140	36	12	METR15X18PA11
18	16	350	24	8	METR16X18PA11
20	16	130	44	15	METR16X20PA11
20	18	400	21	7	METR18X20PA11
22	18	200	40	13	METR18X22PA11
22	19	250	29	10	METR19X22PA11
22	20	400	19	6	METR20X22PA11
24	20	300	36	12	METR20X24PA11
25	22	300	26	9	METR22X25PA11
28	24	350	31	10	METR24X28PA11
30	25	400	36	12	METR25X30PA11
40	34	500	32	11	METR34X40PA11



Speedfit® Air Products



**COMPRESSED AIR SYSTEMS
PNEUMATIC FITTINGS
LLDPE TUBE**

JANUARY 2012

STRAIGHT ADAPTOR



BSP THREAD

PART NO.	TUBE OD	THREAD BSP
PM010411E	4	x 1/8
PM010412E	4	x 1/4
PM010511E	5	x 1/8
PM010512E	5	x 1/4
PM010611E	6	x 1/8
PM010612E	6	x 1/4
PM010811E	8	x 1/8
PM010812E	8	x 1/4
PM010813E	8	x 3/8
PM011012E	10	x 1/4
PM011013E	10	x 3/8
PM011014E	10	x 1/2
PM011213E	12	x 3/8
PM011214E	12	x 1/2



STRAIGHT ADAPTOR



BSPT THREAD

PART NO.	TUBE OD	THREAD BSPT
PM010401E	4	x 1/8
PM010402E	4	x 1/4
PM010501E	5	x 1/8
PM010502E	5	x 1/4
PM010601E	6	x 1/8
PM010602E	6	x 1/4
PM010801E	8	x 1/8
PM010802E	8	x 1/4
PM010803E	8	x 3/8
PM011002E	10	x 1/4
PM011003E	10	x 3/8
PM011004E	10	x 1/2
PM011203E	12	x 3/8
PM011204E	12	x 1/2

PART NO.	TUBE OD	THREAD NPTF
PM010622E	6	x 1/4

EQUAL STRAIGHT CONNECTOR



PART NO. TUBE OD

RM0404E	4	
RM0405E	5	
RM0406E	6	
RM0408E	8	
RM0410E	10	24
RM0412E	12	



VIMEC

Macchine Vibranti e Impianti

Tel. +39 02 24 102 201 Fax +39 02 24 08 790
www.vimec.com - www.vimec.it - vimec@vimec.it



Original

DECLARATION OF INCORPORATION

(Machinery Directive 2006/42 EC, Annex II - Type B)

The manufacturer: VIMEC

Address: Viale dell'Industria 2B - 20037 Paderno Dugnano (MI) - Italy

Declares that the partly completed machinery:

Name / function: Pneumatic oscillator

Type: VAR

Year of manufacture: 2012

Was designed and constructed in conformity with the essential safety requirements contained in Machinery Directive 2006/42/EC, Annex 1, point 1 and subsequent amendments.

They further declare that the pertinent technical documentation was compiled in conformity with Annex VII B of Machinery Directive 2006/42/EC.

VIMEC undertakes to provide the information referred to above relating to the partly completed machinery, where called for by the relevant National Authorities, and the manner of transmitting this information will be agreed with said authorities.

Commissioning any partly completed machinery before the overall installation of which it will form part has been declared as conforming to the provisions of Machinery Directive 2006/42/EC is forbidden.

Name and address of the person authorised to compile the pertinent technical documentation:

Mr. Daniele Montanari - T.V.V. S.p.A. - Viale dell'Industria 2B - 20037 Paderno Dugnano (MI) - Italy

Company manager: Daniele Montanari

Position: Sales Director

Date and place: 26/07/2012 - Paderno Dugnano (MI)

Rubber stamp and signature:



VIMEC

Macchine Vibranti e Impianti

Tel. +39 02 24 102 201 Fax +39 02 24 08 790
www.vimec.com - www.vimec.it - vimec@vimec.it



Original

DECLARATION OF INCORPORATION

(Machinery Directive 2006/42 EC, Annex II - Type B)

The manufacturer: VIMEC

Address: Viale dell'Industria 2B - 20037 Paderno Dugnano (MI) - Italy

Declares that the partly completed machinery:

Name / function: Pneumatic oscillator

Type: VAP

Year of manufacture: 2012

Was designed and constructed in conformity with the essential safety requirements contained in Machinery Directive 2006/42/EC, Annex 1, point 1 and subsequent amendments.

They further declare that the pertinent technical documentation was compiled in conformity with Annex VII B of Machinery Directive 2006/42/EC.

VIMEC undertakes to provide the information referred to above relating to the partly completed machinery, where called for by the relevant National Authorities, and the manner of transmitting this information will be agreed with said authorities.

Commissioning any partly completed machinery before the overall installation of which it will form part has been declared as conforming to the provisions of Machinery Directive 2006/42/EC is forbidden.

Name and address of the person authorised to compile the pertinent technical documentation:

Mr. Daniele Montanari - T.V.V. S.p.A. - Viale dell'Industria 2B - 20037 Paderno Dugnano (MI) - Italy

Company manager: Daniele Montanari

Position: Sales Director

Date and place: 26/07/2012 - Paderno Dugnano (MI)

Rubber stamp and signature:



CERTIFICATO DI LABORATORIO
LABORATORY CERTIFICATE
UNI EN 10204 3.1

DATA-DATE

29/07/2010

DOCUMENTO - DOCUMENT

6,34

CLIENTE - CUSTOMER : CARBO SRL
ENTE DI COLLAUDO - INSPECTOR: G.Q. METALSIDER —

ORDINE-ORDER WORK N.: FAX
NS.CONFERMA-ID. NUMBER : 3983

PRODOTTI - PRODUCTS

RIF.N.	QUALITA' - QUALITY	FORMATO - SIZE mm						IDENT.PROD. COLATA IDENTIFICATION PRODUCT-HEAT			LOTTO - ITEM
24382	S275J0	EN 10025-2:2004	4	X	1500	KG	1200	24382			9
26343	S275J0	EN 10025-2:2004	5	X	1500	KG	1500	26343			8
26315	S275J0	EN 10025-2:2004	6	X	1500	KG	4400	26315			7

CARATTERISTICHE MECCANICHE RICHIESTE - MECHANICAL PROPERTY REQUIREMENTS

QUALITA' QUALITY	PROVA DI TRAZIONE TENSILE STRESS			PROVA DI PIEGA * BEND TEST			PROVA DI RESILIANZA IMPACT TEST			PROVA DI DUREZZA HARDNESS TEST			
	*	R_{el} YIELD	R_m TENSILE	A EL	180 °	*	D	TIPO - TYPE KW	TEMP. KCU	ENERGIA °C	JOULE	min	VALORE - VALUE
		min	min	%		90 °							
		N/mm² - MPa	%										
S275J0 EN 10025-2:2004	T	275	410-560	21	/	/	/	L	X	/	0	27	/ / / / /

* ORIENTAMENTO PROVETTA

DIRECTION TEST SPECIMEN

• PIEGA: a SPESSEZZO PROVETTA

CARATTERISTICHE MECCANICHE RISCONTRATE - MECHANICAL TEST RESULTS

PROVETTA DI TRAZIONE TENSILE SAMPLE				PROVETTA DI TRAZIONE TENSILE SAMPLE				PROVE DI RESILIANZA IMPACT TEST			PROVA DI PIEGA		PROVA DI DUREZZA		
RIF.N.	DIMENSIONI SIZE		AREA AREA	L.UTILE LENGTH	SNERV. YIELD		ROTTURA TENSILE		ALLUNGAMENTO ELONGATION		VALORI SINGOLI INDIVIDUAL VALUE		MEDIA MEAN	BEND TEST	HARDNESS TEST
					F_{el}	R_{el}	F_m	R_m	Total	Percent.					
				mm	N	N/mm² MPa	N	N/mm² MPa	mm	%	JOULE				
24382	4 X 20		80	50	25000	313	35900	449	69	38	/	/	/	/	/
26343	5 X 20		100	60	34900	349	49500	495	77	28	/	/	/	/	/
26315	6 X 20		120	60	41900	349	59400	495	77	28	99	101	101	100	/

ANALISI CHIMICA QUANTOMETRICA - CHECK ANALYSIS

ANALISI CHIMICA QUANTOMETRICA - CHECK ANALYSIS														
24382	%C	%Si	%Mn	%P	%S	%Al	%Nb	%V	%Mo	%Ni	%Cr	%Ti	%Cu	%CEV
	0,140	0,020	0,560	0,011	0,004	0,040							0,010	0,234
26343	%C	%Si	%Mn	%P	%S	%Al	%Nb	%V	%Mo	%Ni	%Cr	%Ti	%Cu	%CEV
	0,170	0,010	1,050	0,014	0,007	0,037							0,007	0,345
26315	%C	%Si	%Mn	%P	%S	%Al	%Nb	%V	%Mo	%Ni	%Cr	%Ti	%Cu	%CEV
	0,170	0,010	1,050	0,014	0,007	0,037							0,008	0,345

NOTE: CONTROLLO DIMENSIONALE ASpetto SUPERFICIALE
SODDISFALENTE QUALITA' CONFORME ALL'ORDINE

NS. D.D.T. 4159 DEL 29/07/2010

ESEGUITO DA Test made by	TECNICO DEL COLLAUDO Technical tester	RESPONSABILE DI LABORATORIO Chief of the testing lab	ENTE DI COLLAUDO Inspector	COMMITTENTE Customer
METALSIDER S.p.A	Mambelli Davide			

EVRAZ PALINI E BERTOLI S.p.a.

Via E.Fermi 28 33058 SAN GIORGIO DI NOGARO (UD) -ITALY- Tel.0039/0431/623111 Fax. 0039/0431/621244
CAP.SOC. 20.000.000 i.v. EURO INT.VERSATO - C.F.03229740109 P.IVA 03217150964

Certificato di collaudo/Inspection Certificate/Abnahmeprüfzeugnis/Certificat de Reception EN 10204:2004 3.1

Cliente / Customer.. ▶ CENTRO SIDERURGICO BRESCIANO SPA

Bolla Nm. / Del-Of.. ▶ (1.406) / 02-Mar.2012

CENTRO SIDERURGICO BRESCIANO SPA ▶ VIA MARTIRI DELLA LIBERTA', 25/25030 TORBOLE CASAGLIA (BRESCIA) BS
Attention to ▶ QUALITY CONTROL

CERTIFICATO Nm / Data ▶ 175.687 - 02-Mar.2012

Fgl.Car. ▶ 188.308

Cliente/Customer Ord. ▶ (256/0112-13/12)-(257/0112-13/12)-

Standard..... ▶ EN 10025-2:2004

Stato di Fornitura / State of Supply ▶ NATURALE DI LAMINAZIONE / AS ROLLED

Lotto Cast	Qualità Quality	ID.Piaccia ID.Plate	Dimensioni Dimension mm.	N.Ordine Interno	N. Pcs.	TOT. Pcs.
138705/AA..	S275JR+AR.....	40R.47.01/B....	10x2480x12000...	256/0112..	Pz. 1	1 + Tot.Pz.

Colata/Heat	XC	%Si	%Mn	%P	%S	%Cr	%Ni	%Cu	%Al	%Mo	%Nb	%V	%N	%Ti	%B	%H	%As	CEQ.
138705.....	0,17	0,20	0,98	0,014	0,006	0,03	0,05	0,01	0,040	0,00	0,001	0,008	0,003	0,001	-----	-----	0,34	

Lotto Cast	Test (C02)	TENSILE TEST					IMPACT TEST									
		(C03)	Rm °C	ReH Mpa	A %	(C13)	(C03)	Rp02 °C	Z %	Type (C40)	(C02)	(C03)	1° J	2° J	3° J	MEAN
138705/AA..	SG701	T	+20	...458	...324	...31.7

(C02) direction of test + L longitudinal - T transversal (C03) test temperature ▶ (C40) type of test (C13) Lo = 5.65 %So

CE Marking Certificate N.0474-CFO-0033 emissione corrente 08/12/2011.

Controllo radiometrico In accordo al D.Lgs.n°100 del 01/06/2011 o s.m.i.. Esito:Conforme. -Radioactivity control according to D.Lag.n°100 dated 01/06/2011.Result:Conforming.

La sfera qui certificata è di origine Italiana Comunità Europea. The goods here certified have Italian origin European Community

IL PRESENTE CERTIFICATO È PARTE INTEGRANTE DI UN ALTRO CERTIFICATO CON STESSO NUMERO E DATA.

CERTIFICIAMO CHE IL PRODOTTO SOPRA ELENCATO È CONFORME ALLA PRESCRIZIONE DELL'ORDINE E CHE I CONTROLLI DELL'ASpetto SUPERFICIALE E DIMENSIONALE HANNO DATO ESITO POSITIVO.
WE HEREBY CERTIFY THAT THE ABOVE MENTIONED PRODUCTS ARE IN COMPLIANCE WITH ORDER PRESCRIPTIONS AND THAT TESTS OF SURFACE AND DIMENSIONAL ASPECTS WERE SUCCESSFUL.

2012/03/08 12:00
CENTRO SIDERURGICO BRESCIANO SPA

PER N. 01 FOGLIO N. 6300
N. 01 FOGLIO N. 5700

QUALITY CONTROL

Cert.N. ▶ 175.687

Pag. N. ▶ 1

Rapp.56AA p.d. RIZZATTI M.



EVRAZ PALINI E BERTOLI S.p.A.
QUALITY CONTROL DEPT.
RIZZATTI MARCO



VIBRATOR TEST REPORT

BALLESTRA JOB No.	2F11
BALLESTRA ITEM No.	64SR2 A/B
BALLESTRA ORDER No.	121501 of 18/06/2012

IDENTIFICATION DATA

TYPE	VAP 30
DATE	20/07/2012
NUMBER OF VIBRATOR CHECKED	2

GENERAL DATA

FRAME MATERIAL:	CAST IRON
COVER MATERIAL:	IRON
PISTON MATERIAL:	CHROME STEEL

RUNNING TEST

VISUAL CHECK:	SATISFACTORY
DIMENSIONAL CHECK:	SATISFACTORY
TEST PRESSURE:	7 BAR
FUNCTIONAL TEST:	SATISFACTORY

GENERAL RESULT OF THE TESTING SESSION:	SATISFACTORY
--	--------------

VIBRATOR TEST REPORT

BALLESTRA JOB No.	2F11
BALLESTRA ITEM No.	62SR11 A/B - 62SR22 A/B - 62SR33 A/B
BALLESTRA ORDER No.	121501 of 18/06/2012

IDENTIFICATION DATA

TYPE	VAP 50
DATE	20/07/2012
NUMBER OF VIBRATOR CHECKED	6

GENERAL DATA

FRAME MATERIAL:	CAST IRON
COVER MATERIAL:	IRON
PISTON MATERIAL:	CHROME STEEL

RUNNING TEST

VISUAL CHECK:	SATISFACTORY
DIMENSIONAL CHECK:	SATISFACTORY
TEST PRESSURE:	7 BAR
FUNCTIONAL TEST:	SATISFACTORY

GENERAL RESULT OF THE TESTING SESSION:	SATISFACTORY
--	--------------

VIBRATOR TEST REPORT

BALLESTRA JOB No.	2F11
BALLESTRA ITEM No.	62SR2
BALLESTRA ORDER No.	121501 of 18/06/2012

IDENTIFICATION DATA

TYPE	VAR 2
DATE	20/07/2012
NUMBER OF VIBRATOR CHECKED	1

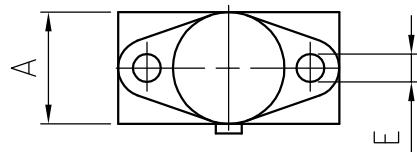
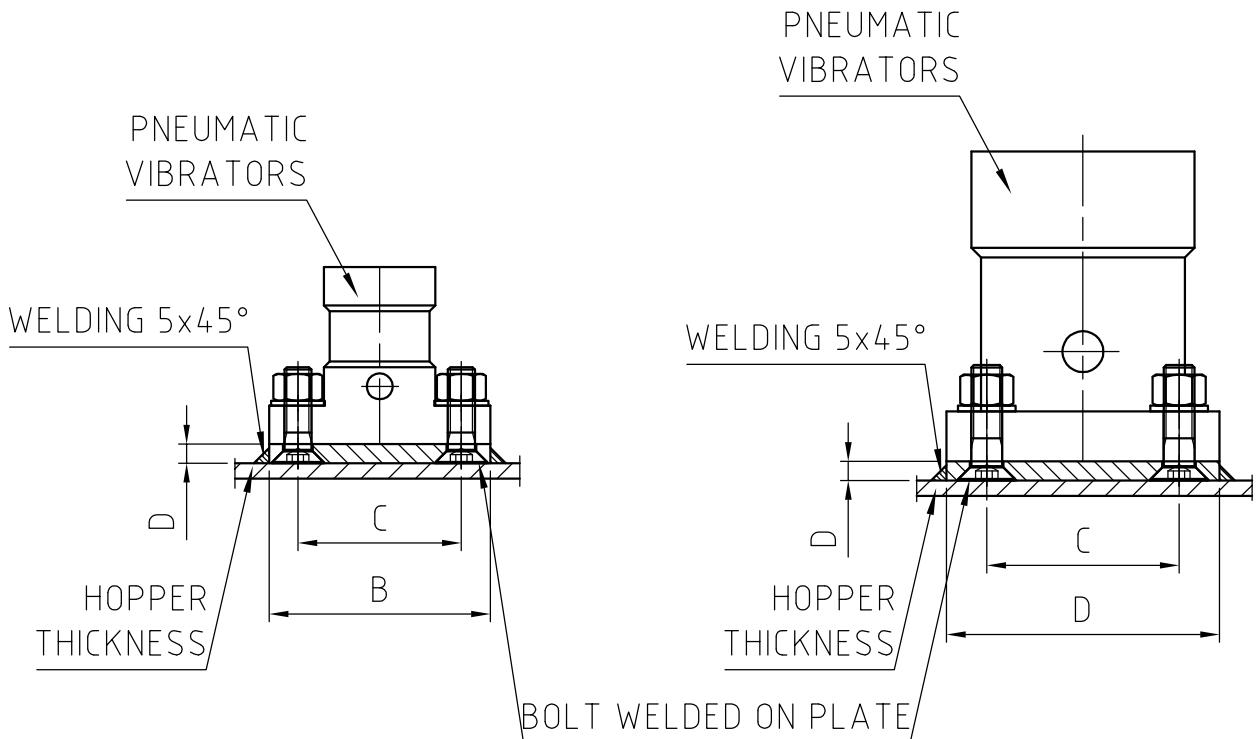
GENERAL DATA

FRAME MATERIAL:	CAST IRON
ROLL MATERIAL:	CARBON STEEL

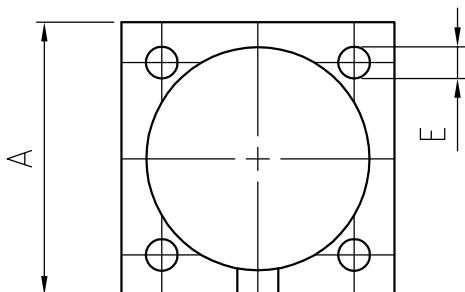
RUNNING TEST

VISUAL CHECK:	SATISFACTORY
DIMENSIONAL CHECK:	SATISFACTORY
TEST PRESSURE:	6 BAR
FUNCTIONAL TEST:	SATISFACTORY

GENERAL RESULT OF THE TESTING SESSION:	SATISFACTORY
--	--------------



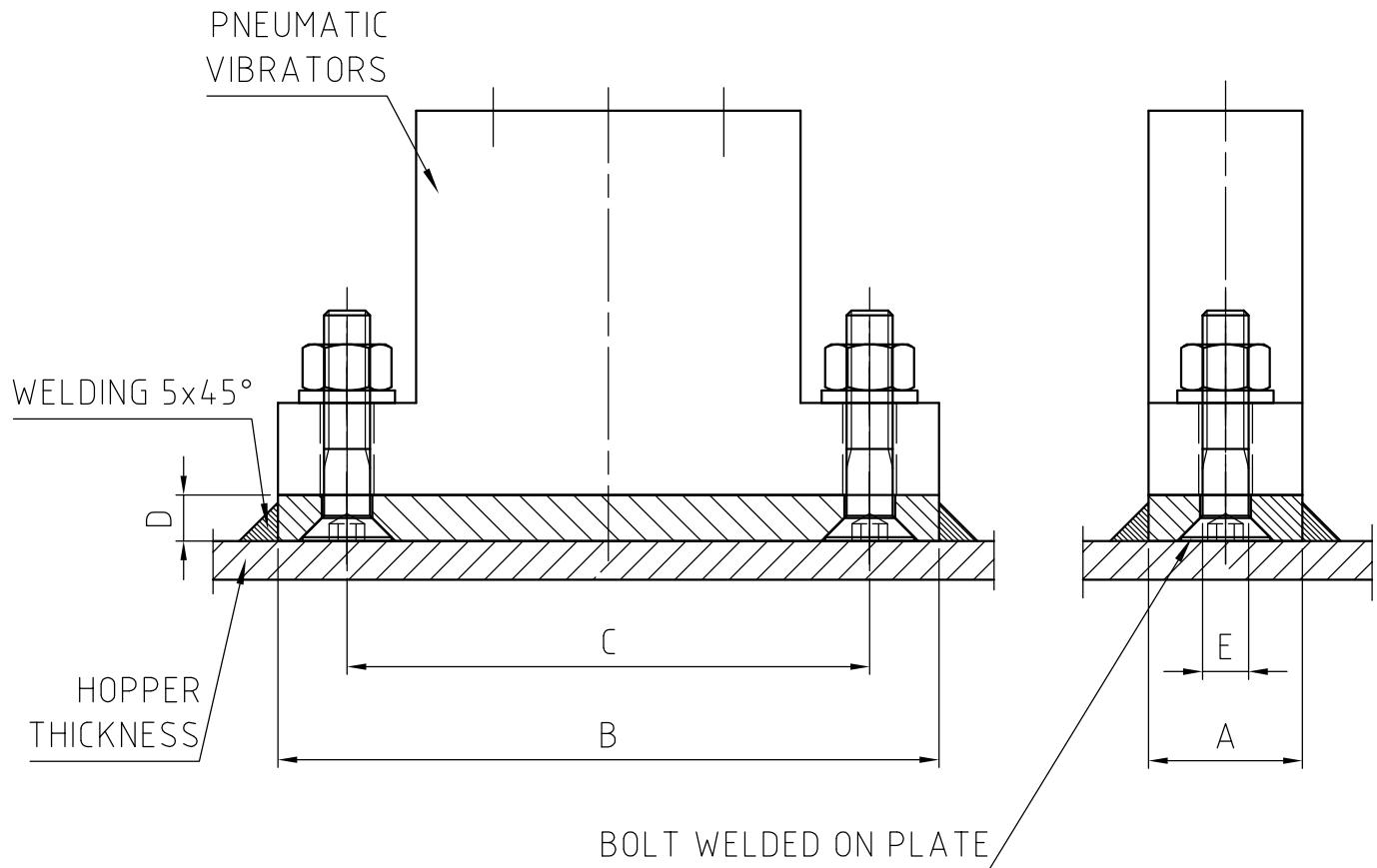
TYPE VAP30 AND 50



TYPE VAP 75

TYPE	DIMENSIONS (mm)				C'SUNK HEAD BOLT	
	A	B	C	D	E	
VAP 30	20	86	68	10	M14x30	N. 2 PIECES
VAP 50	27	110	90	10	M16x35	N. 2 PIECES
VAP 75	38	130	104	10	M16x35	N. 4 PIECES

A TERMINE DI LEGGE ci riserviamo la proprietà di questo disegno con diritto di riprodurlo o di renderlo noto a terzi senza nostra approvazione scritta. (ART.1152 - 1158 - 1161 C.C.)	REV.	DESCRIZIONE REVISIONE VIMEC S.p.A. - Macchine Vibranti e Impianti 20091 Bresso (MI) - Via Carolina Romani 10 Tel.02/24102201 - Fax 02/2408790 www.vimec.com - E-mail:vimec@vimec.it				
			COMM.	COMM.	COMM.	COMM.
			PNEUMATIC VIBRATORS			
			PISTON EQUIPPED VAP			
			THICKNESS OF PLATE			
DISEGNATO	FIRME	DATA	SCALA	DISEGNO N°	REV.	TOLLERANZE GENERALI
P.Mariani		15/12/2010	1:1	16770-SB		UNI EN 22768 - ck
Pelateau R.		15/12/2010				UNI EN 13920 - AE
Tilica I.		15/12/2010				



TYPE	DIMENSIONS (mm)				C'SUNK HEAD BOLT	
	A	B	C	D	E	
VAS 1	20	86	68	6	M6x30	N. 2 PIECES
VAS 2	27	110	90	6	M8x35	N. 2 PIECES
VAS 3	38	130	104	6	M8x35	N. 2 PIECES
VAS 4	50	160	130	6	M10x40	N. 2 PIECES
VAR 1	30	86	68	6	M6x30	N. 2 PIECES
VAR 2	36	110	90	6	M8x35	N. 2 PIECES
VAR 3	42	130	104	6	M8x35	N. 2 PIECES
VAR 4	52	160	130	6	M10x40	N. 2 PIECES

A TERMINE DI LEGGE ci riserviamo la proprietà di questo disegno con diritto di riprodurlo o di renderlo noto a terzi senza nostra approvazione scritta. (ART.1152 - 1161 C.C.)							
	REV.	DESCRIZIONE REVISIONE	DATA	DIS.TO	APPROVATO		
 VIMEC S.p.A. - Macchine Vibranti e Impianti 20091 Bresso (MI) - Via Carolina Romani 10 Tel.02/24102201 - Fax 02/2408790 www.vimec.com - E-mail:vimec@vimec.it		COMM.	COMM.	COMM.	COMM.		
		PNEUMATIC VIBRATORS					
		BALL EQUIPPED VAS - ROLL EQUIPPED VAR					
		THICKNESS OF PLATE					
		FIRME	DATA	SCALA	DISEGNO N°	REV.	TOLLERANZE GENERALI
DISEGNATO	P.Mariani	15/12/2010	1:1	16771-SB	UNI EN 22768 - cK		
CONTROLLATO	Pelateau R.	15/12/2010			UNI EN 13920 - AE		
APPROVATO	Tilica I.	15/12/2010					



OPERATING INSTRUCTIONS FOR PNEUMATIC VIBRATORS VAP SERIES

GENERAL

The VIMEC linear motion pneumatic vibrators VAP series, are designed and built to cater for a whole variety of application requirements.

They are made of top quality materials and with manufacturing techniques based on state-of-the-art technologies. Likewise the VAP series boasts of the reliability and versatility in application under widely different operating conditions, which are characteristic features of the VIMEC S.p.A. production.

WARRANTY

VIMEC S.p.A. warrants the operation and quality of its equipment for a period of 6 (six) months from the purchasing date, undertaking, during such period, to replace at its own expense all those parts found to be defective owing to faults in workmanship. These parts should be sent ex-Central warehouse, Sesto San Giovanni.

The warranty does not cover parts subject to normal wear and periodic replacement.

Damage caused to the equipment owing to improper installation, transport and storage operations and any other cause not directly ascribable to the Manufacturer shall cause the Warranty to cease immediately.

INSTALLATION

This type of vibrator is used for applications regarding feeding and conveying. The most frequent types of feeders are troughs, chutes and hoppers.

The pneumatic vibrators with piston of the VAP type are not recommended for emptying of tanks and hoppers because such type of vibrator discharges its energy through repeated impact on the walls of the containers which could cause deformation or, in worse case conditions, structural damage.

The pneumatic vibrators of the VAP series do not require particular arrangement, therefore they can be installed at any position.

Obviously the framework to be vibrated should be able to withstand the stresses deriving from the vibration while the surface on which the vibrator is fastened should be perfectly flat.

For fastening the oscillator to its support, only use bolts with minimum strength 80 Kg/mm² (UNI 5737 or UNI 5739 class 8.8). Never use slotted screws.

The bolts should be of adequate length in order to allow fitting of the following items: flat washer (UNI 6592 class 5S) - nut (UNI 5587 class 8G) – spring washer (UNI 1751 steel C72) – locknut (UNI 5589 class 8G).

For locking of the threaded parts we recommend using LOCTITE 270.

To ensure tightness over the long-term, it is essential to tighten the bolts with a torque wrench observing the following tightening torques:



THREAD	TIGHTENING TORQUE (MIN)	TIGHTENING TORQUE (MAX)
M12	50 N	72 N
M16	150 N	174 N

After the first two/three running hours, it is advisable to stop the vibrator and check for tightness of the bolts.

In the case of aggressive atmosphere or after long idle periods, it is advisable to lubricate the vibrator directly from the compressed air intake before starting to operate it.

When the compressed air supply system is subject to formation of condensate, we advise installing an ordinary dehumidifier upstream of the vibrator.

PNEUMATIC EQUIPMENT

Connection to the compressed air

The compressed air supply hose should be large enough to ensure good air flow. The connection between the main compressed air supply line and the vibrator should be via a flexible hose, fastening it securely and using Teflon tape to ensure air tightness.

It should be possible for the compressed air supply hose to move freely in order to avoid risk of it being broken by the vibrations. Never fasten it to the wall of the object to be vibrated in order to avoid resonance phenomena which could cause breakage to the hose.

N.B.: the unit complete with filter, regulator and lubricator should be positioned as close as possible to the vibrator. If the vibrator is to be used on an intermittent basis, the distance between it and the solenoid valve should be less than 1 metre. This will ensure correct operation during start-up and stopping.

The air discharge pipe should not be longer than 3 metres.

See figura on page 3.

Air filter and pressure regulator

All compressors are equipped with air filters to protect the compressor valves. This compressed air is sufficiently clean to be used in all our vibrators; any small particles of dirt can be expelled via the vibrator itself, but we strongly recommended the use of an air filter on the line for capturing particles of 5 µm or less. Such precaution will increase the vibrator working life.

Install the filter as close as possible to the vibrator in order to avoid particles of rust coming from the metal pipes reaching the vibrator.

For correct installation, the compressed air should flow through the accessories in the following order: filter → regulator → lubricator. See figura on page 3.



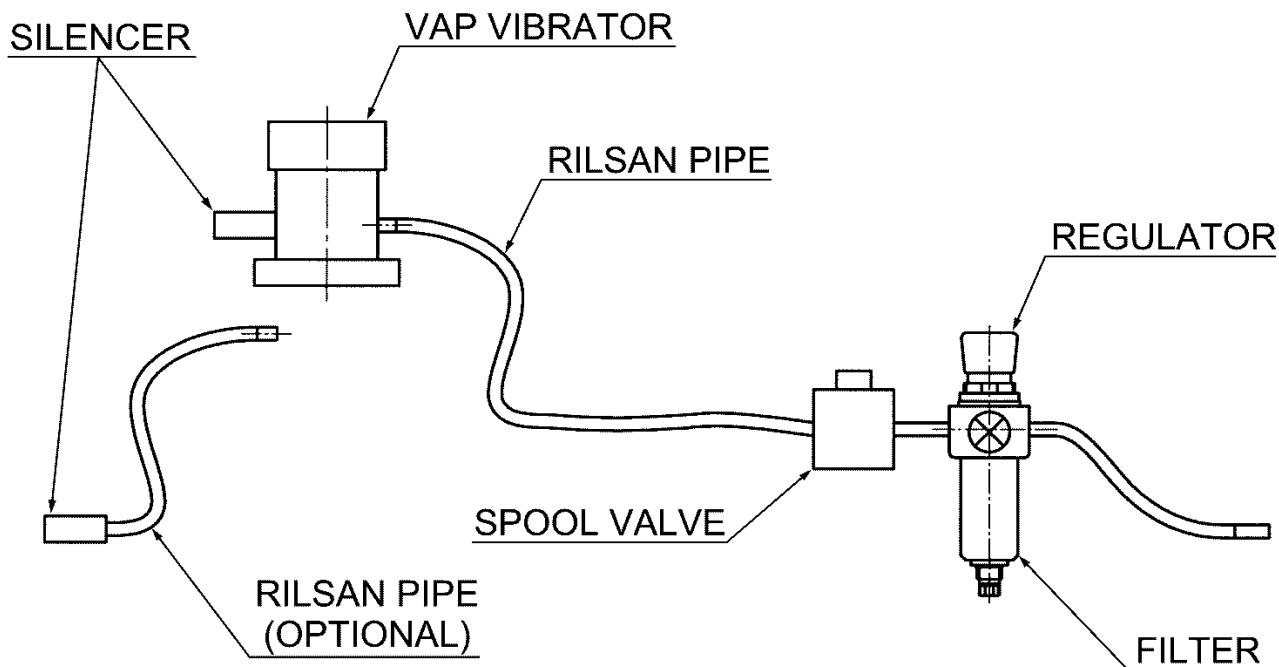
Valves

For certain applications (emptying of tanks or hoppers) it is advisable to use the vibrator on an intermittent basis. To do so, install a solenoid valve after the compressed air lubricator. Never position the solenoid valve before the pressure regulator and lubricator in order to prevent possible malfunctions during the starting and stopping phases. We also recommend installing the valve as close as possible to the vibrator.

N.B.: never mount the accessories (filter, regulator, valves, etc.) on vibrating parts in order to avoid malfunctions or damage to such parts.

CAUTION: make sure that the internal width of the valve is sufficient. If not, the vibrator will not be able to operate at its full potential and it could be difficult for the vibrator to start correctly.

It could also be possible that the vibrator cylinder piston does not start when the valve is actuated manually. This is because, for a correct starting, the piston requires the maximum available pressure in short times. In the case of manual actuation, open the valve as quickly as possible or use a solenoid valve.





ROLL OPERATED PNEUMATIC VIBRATOR TYPE VAR

OPERATING AND MAINTENANCE INSTRUCTION LEAFLET

VIMEC'S GUARANTEES AND LIABILITIES

Vimec S.p.A. guarantee the proper operation and the quality of their products for a period of six (6) months from the date of purchase, engaging themselves to replace, during this period, all the components proving to be defective by workmanship at the origin. The defective parts must be sent at customer's expense free central warehouse in Bresso (Milano). The warranty does not apply to the components subject to normal wear, which should be replaced on a periodical basis.

Damages caused by improper installation of the units and/or careless transport/stocking and/or any other problem not directly depending from the manufacturer determine the immediate decadence of the warranty. The customer shall make sure that the vibrators are installed and operate according to the terms specified in the contract.

The customer is due to use only original spare-parts supplied by VIMEC S.p.A. and to install them according to the instructions.

VIMEC S.p.A. disclaim any responsibility in the following cases:

- | | |
|--|---|
| <ul style="list-style-type: none">- wrong use of the vibrator;- use of the vibrator not being in compliance with the specific National regulations;- incorrect installation;- poor maintenance; | <ul style="list-style-type: none">- not allowed alterations or operations;- use of non-original spare-parts;- total or partial failure in complying with the instructions of use;- exceptional events. |
|--|---|

The customer is due to check that the packing is intact and did not suffer any damages due to impacts, improper handling or bad weather.

The customer shall provide for the proper training of the personnel, who must acquire the necessary experience with the main functions of the unit, of its control devices and of the functioning in any operating status.

Vimec S.p.A. disclaim any responsibility for any damages originated by an improper or imprudent use of the unit by unskilled or skilled personnel, not being in accordance with the instructions given in this leaflet and/or in the enclosed technical documents.

Vimec is not to be held responsible for any injury caused to persons or damages to things deriving from the safety devices of the vibrator not being used, disabled or tampered with.

In case of use differing from the normal one, please contact the Vimec's Technical Department.

GENERALITY

This leaflet should be kept in a safe place throughout the working life of the vibrator. The customer should make sure that the operator in charge has read the contents of this document and is familiar with it and that he follows the instructions contained therein, as Vimec S.p.A. disclaims any responsibility for damages caused to persons or objects or to the units, if the conditions described here following are not complied with.

In this document all the characteristics of the pneumatic vibrator type VAR as well as the correct installation - starting-up , use and maintenance procedures are mentioned. The purchaser is strongly recommended to keep this leaflet in a safe place and to scrupulously follow with the instructions herein contained.

The vibrators are manufactured in conformity with the standard n° 2006/42/CE regarding machinery. Special care was given to the rules EN 292, part 1 and part 2.

The vibrators produce multi-directional vibrations. They are employed to keep a constant flow in the hoppers and silos, to drive dosing units, vibrating screens and tables and generally to remove, convey³⁷

compact and separate bulk materials and reduce the friction. They are particularly suitable to be used in the food industry, in humid environments and outdoors.

The frequency of vibration and the centrifugal force depend on the operating pressure.

Air supply: the vibrators should be filled with nitrogen or filtered compressed air (filter <60 upm) at a pressure of 2 to 6 bar (from 30 to 90 PSI). The use of non-filtered air does not damage the units.

The maximum operating pressure must not exceed 6 bar (90 PSI).

Lubrication: the vibrators are designed for use without lubricant, but the use of lubricated air extends their life. Please refer to the oil types mentioned here below - quantity comprised between 2 to 5 drops per hour.

	Mobil		
TELLUS OIL 22	MOBIL DTE 21	INVAROL EP 22	ENERGOL HLP-HM 22

Noise level: depending on the air pressure, it will be between 75 to 85 db(A) with silencer, the use of which is always recommended.

SAFETY

When installing the unit or during maintenance operations, make always sure that the compressed air on all the lines is disconnected. During normal functioning all the hoses must be securely connected, the detachment of a hose under pressure may cause injuries. The vibrations may loosen the screw connections and damage the units.

INSTALLATION AND STARTING-UP

Installation: fasten the vibrator onto a horizontal clean surface of the structure to be vibrated, which must be sturdy enough to withstand the stresses caused by the vibrations. To this extent a U-shaped reinforcement section to be welded to the machine to be vibrated is recommended (Fig. 1 refers).

The rotation axle of the vibrators type VAR must be mounted horizontally by means of screws having a resistance of at least of 80 kg/mm² (UNI 5737 class 8.8). The bolts must be of proper length so as to permit the following parts to be fitted: flat washer (UNI 6592 class 5S) - nut (UNI 5587 class 8G) - flexible washer (UNI 1751 steel C72) - counter-nut (UNI 5589 class 5S). In alternative self-locking nuts can be used. Tighten the bolts by means of a torque wrench according to the tightening torque mentioned in the table here below.

Air supply and discharge: install the compressed air preparation unit (filter, regulator), supply line and valve (see Fig. 2-7) plus the lubricator if necessary.

For air supply hoses up to 3 m long, use the sizes equal to those given in the table; for greater lengths, increase the hose diameter.

The air inlet is smaller in diameter than the air outlet and both are marked on the front part by arrows (figures 3-4): the air supply fitting under pressure should be fastened securely.

The discharge hose should have a nominal wall thickness equal to that of the supply hose.

Start-up: if correctly installed, the vibrator can be placed in service immediately. Make sure that the pressure of the pneumatic system is able to meet the compressed air consumption requirements of the vibrator; if not, the latter will not be able to operate in accordance with the specification.

After one running hour, make sure that all bolts are fully tightened and take up any slack during to bedding-in.

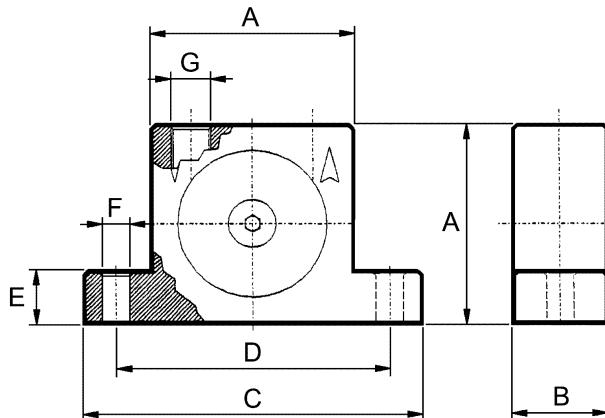
Vibrators of the VAR type can operate in a temperature range between -20°C and +200°C. For temperatures exceeding 120°C, the vibrators should be provided with silencers for heat-resistant fittings for flexible hoses.

MAINTENANCE

If the unit lies idle for a long period in storage prior to use (up to a max. of 2 years), the storage environment should have a min. temperature not less than +5°C and relative humidity not exceeding 60%.



The use of compressed air containing impurities would cause dirtying of the filter and silencer; clean them periodically by rinsing them.
Periodically inspect the bolts for tightness (about once a month) (Figures 5-6).



TYPE	DIMENSIONAL CHARACTERISTICS (mm)							
	Weight (Kg)	A	B	C	D	E	F	G
VAR 1	0.37	50	30	86	68	12	7	1/8"
VAR 2	0.76	65	36	113	90	16	9	1/4"
VAR 3	1.27	80	40	128	104	16	9	1/4"
VAR 4	2.6	100	52	160	130	20	11	3/8"

TYPE	Consumption	Vibrations	Centrifugal force	Mounting screw dia.	Torque wrench	Air inlet hose dia.
	(lt/sec)	(R.P.M.)	(N)	(mm)	(Nm)	
VAR 1	3.4	29500	3481	M 6	10,4	DN 6
VAR 2	4.9	26000	5413	M 8	25	DN 10
VAR 3	6.3	21500	6119	M 8	25	DN 12
VAR 4	6.8	11000	7678	M 10	51	DN 12

