

SAFETY RELIEF VALVES **CERTIFIED AND STANDARD**













PRODUCTION RANGE CERTIFIED SAFETY RELIEF VALVES (Compliant with Directive PED 2014/68/EU, with INAIL formerly ISPESL bench calibration report) Φ Orifice $D_{N} = 15 \text{ mm}$ $D_{N} = 20 \text{ mm}$ $D_{N} = 25 \text{ mm}$ $D_{N} = 32 \text{ mm}$ A = 1.76 cm $A = 3.14 \text{ cm}^{-1}$ $A = 8.03 \text{ cm}^2$ Net Sec $A = 4.90 \text{ cm}^2$ Φ Coupling $D_1 = \frac{1}{2}$ " $D_1 = \frac{3}{4}$ " D₁ = 1" $D_1 = 1''_4$ $D_{S} = \frac{3}{4}$ " $D_{S} = 1''_{4}$ $D_{S} = 1''_{2}$ Φ Discharge D_s = 1" Discharge Coeff. K = 0.60K = 0.65K = 0.75K = 0.50Calibration Flow Max Flow Max Flow Max Max Flow rate rate W rate W Pt Generator Generator Generator rate W Generator W Code Code Potential Potential Code Potential Code Potential (P=P.+10%P.) (P=P.+10%P.) (P=P.+10%P. P=P.+10%P. [Kg/h] [bar] [KW] [KW] [KW] [Kg/h] [KW] [Kg/h] [Kg/h] 605.04.00 605.05.00 605.06.00 605.07.00 2.25 175 101 337 195 607 353 663 385 2.50 605.04.10 187 108 605.05.10 360 209 605.06.10 649 377 605.07.10 709 412 2.70 605.04.20 196 114 605.05.20 378 220 605.06.20 682 396 605.07.20 745 433 3.00 605.04.30 214 124 605.05.30 412 239 605.06.30 744 432 605.07.30 812 472 605.04.40 138 605.05.40 266 605.06.40 481 605.07.40 904 3.50 238 459 827 525 4.00 605.04.50 268 156 605.05.50 517 300 605.06.50 932 542 605.07.50 1019 592 4.50 605.04.60 289 167 605.05.60 556 323 605.06.60 1003 583 605.07.60 1096 636 5.00 1205 605.04.70 317 605.05.70 612 355 605.06.70 1103 605.07.70 184 641 700 339 197 380 685 748 5 40 605.04.80 605.05.80 654 605.06.80 1179 605.07.80 1288 6.00 605.04.90 374 217 605.05.90 720 418 **605.06.90** 1298 754 **605.07.90** 1418 824 n [10% c Verpressure opening Atmosph ction R ackpressu nan [20% of Pt] - collection R 2.2.10 Operating temperature losing discar Max admissible pressure Fluid of u Air (group 2) Water CONTROLLED RISE STANDARD SAFETY RELIEF VALVES (Compliant with Directive PED 2014/68/EU) Φ Orifice $D_N = 15mm$ Connections FF MF FF MF Pressure Max Generator Potential Gauge Female ¼" UNI-EN-ISO 228 P=Pt+10%Pt Connection $D_1 = \frac{1}{2}$ $D_1 = \frac{3}{4}$ " $D_1 = \frac{1}{2}$ $D_1 = \frac{1}{2}$ $D_1 = \frac{1}{2}$ $D_1 = \frac{3}{4}$ $D_1 = \frac{1}{2}$ " Φ Coupling Φ Discharge $D_s = \frac{1}{2}$ " $D_s = \frac{1}{2}$ " $D_s = \frac{3}{4}$ " $D_{s} = \frac{1}{2}$ $D_s = \frac{3}{4}$ " $D_s = \frac{3}{4}$ " $D_s = \frac{1}{2}$ " [KW] Calibration Code \mathbf{P}_{t} Code Code Code [bar] 351.04.10 351.05.10 352.04.10 352.05.10 353.04.10 353.05.10 354.04.10 1 50 48 2.00 351.04.20 351.05.20 352.04.20 352.05.20 353.04.20 353.05.20 354.04.20 55

2.50	351.04.30	351.05.30	352.04.30	352.05.30	353.04.30	353.05.30	354.04.30	68	
3.00	351.04.40	351.05.40	352.04.40	352.05.40	353.04.40	353.05.40	354.04.40	75	
3.50	351.04.50	351.05.50	352.04.50	352.05.50	353.04.50	353.05.50	354.04.50	83	
4.00	351.04.60	351.05.60	352.04.60	352.05.60	353.04.60	353.05.60	354.04.60	96	
4.50	351.04.70	351.05.70	352.04.70	352.05.70	353.04.70	353.05.70	354.04.70	103	
5.00	351.04.80	351.05.80	352.04.80	352.05.80	353.04.80	353.05.80	354.04.80	109	
6.00	351.04.90	351.05.90	352.04.90	352.05.90	353.04.90	353.05.90	354.04.90	128	
7.00	351.04.71	351.05.71	352.04.71	352.05.71	353.04.71	353.05.71	354.04.71	148	
8.00	351.04.81	351.05.81	352.04.81	352.05.81	353.04.81	353.05.81	354.04.81	166	
10.00	351.04.11	351.05.11	352.04.11	352.05.11	353.04.11	353.05.11	354.04.11	181	
Opening overpressure Less than [10% of P ₄] - EN 4126-1 Backpressure Atmospheric									
Closing discard Less than [20% of Pt] - EN 4126-1				Operating temperature		+5°C ÷ +120°C			
Max admissible pressure Ps = 12 bar				Fluid of use		Water- Air (group 2)			
ACCESSORIES									

			e:
	A second s	Code	Size
		666.05.00	3⁄4"
DRAIN CHANNEL	14	666.06.00	1"
	17	666.07.00	1" ¼
		666.08.00	1" 1⁄2

* Technical specification in application of title II of Ministerial Decree enacted by the Italian Government of December 1 1975.







Technical Sheet CT0351.0-EN_05

Description of appliance:

The valve is a safety accessory according to the definition of PED Directive 2014/68/EU of the type "direct pressure limitation" and has been built in compliance with standard EN 4126-1 and the "R Collection" of ISPESL technical standards (only series 605 valve). The gasket sealing the cut-off valve is built with materials suitable to guarantee resistance to wear and without sticking to the housing, even when operating for long periods of time.

The immovable plate prevents unintentional tampering with valve calibration and bears the calibration value, the product code, DN, TS, PS, Kw, discharge pressure, usable fluids group, batch identification, progressive construction number, year of manufacture.

Description of operation:

When there is an over-pressure of no more than 10% the value of the calibration pressure, the valve opens a discharge orifice (the force generated by the pressure overcomes the resistance exerted by the valve spring), allowing part of the fluid to be discharged and thereby lower the pressure inside the system. This orifice is closed by a spring when the pressure value drops to a value within a maximum of 20% Pt.

Triggering of the safety valve is guaranteed even if the diaphragm breaks.

Turning the hand wheel anticlockwise opens and closes the discharge orifice.

The valve is supplied with a threaded part after the discharge orifice where a unit (supplied separately) which visually controls that the valve has triggered is mounted.



CERTIFICATIONS - STANDARD REFERENCES

<u>Directive PED 2014/68/EU (Valves Series 351 - 352 - 353 - 354 - 605)</u>:
 Consult declarations of conformity No. *DC0351.0* and *DC0605.0* available at www.rbm.eu

 M.D. 01 December 1975 and INALL certification (ex ISPESL) (Valves Series 605): Safety relief valve bench calibration report conducted at the manufacturer's according to Collection "R" technical specifications in application of M.D. 01/12/75.

GENERAL WARNINGS FOR INSTALLATION AND USE

- The safety valve must be mounted on the system paying attention to the direction of flow specifically indicated on the body.
- The safety valve must be mounted on the top of the storage tank making sure it completely emerges in it (standard valve Series 351 352 353 354)
- The safety valve must be mounted on the supply pipes at a maximum distance of 1m from the generator (certified valve Series 605).
- The safety valve can be mounted both horizontally and vertically, making sure the discharge does not face upwards.
- The inside diameters of the fluid supply and discharge pipes of the safety valve must be no less than their DN.
- The pipes or accessories used to transport discharged fluids must not create bending moments which jeopardise triggering of the valve.
 The equipment, pipes or accessories used to transport fluids must be free at the threadings from residue of prior preparations or processes especially when the water contains inhibitors capable of developing amines.
- Intentional tampering with the calibration value makes it impossible for the valve to perform the safety function for which it was designed.
- The safety unit should be opened manually once a year to check its efficiency.
- In the event of fluid leakage, pay great attention to interventions on the valve, taking the necessary precautionary measures, especially in the presence
 of very high operating temperatures.
- When the cut-off valve has difficulty restoring its sealing features, after discharge interventions, perform some opening and closing manoeuvres by manually turning the hand wheel of the valve anticlockwise, thus cleaning the concerned parts.
- If the RBM safety valve is not installed and kept in a suitable place, it does not lose its functional and performance features.
- The RBM safety valve must be installed by qualified technicians.
- The valve must be inspected periodically starting from the commissioning date, at a frequency established by legislation in force.

The instructions herein must be complied with mandatorily.

SPECIFICATION ITEMS

SERIES 605

Calibrated and certified safety relief valve with diaphragm and controlled rise for fluids and neutral gases. Brass body. Galvanised steel spring. EPDM PEROX shutter seal. EPDM PEROX diaphragm. Threaded angle connections FF UNI-EN-ISO 228. Max operating pressure 110 °C. Opening overpressure +10 %. Closing discard pressure -20%. Max admissible pressure Ps 12 bar. Allowed fluid water-air (Gr.2). INAIL (ex ISPESL) bench calibration certificate. Compliant with Directive PED 2014/68/EU. Available calibrations (bar): 2.25 - 2.50 - 2.70 - 3.00 - 3.50 - 4.00 - 4.50 - 5.00 - 5.40 - 6.00. Available connections 1/2"x3/4" - 3/4"x1" - 1"x1"1/4 - 1"1/4x1"1/2.

SERIES 351

Standard safety relief valve with diaphragm with controlled rise for fluids and neutral gases. Connection FF 1/2"x1/2" and 3/4"x3/4". Brass body. AISI 302 stainless steel spring. EPDM PEROX shutter seal. EPDM PEROX diaphragm. Threaded angle connections FF UNI-EN-ISO 228. Max admissible pressure Ps 12 bar. Max. operating pressure 120 °C. Orifice diameter 15 mm. Opening overpressure +10 %. Closing discard pressure -20%. Allowed fluid water-air (Gr.2). Compliant with Directive PED 2014/68/EU. Available calibrations (bar): 1.50 - 2.00 - 2.50 - 3.00 - 3.50 - 4.00 - 4.50 - 5.00 - 6.00 - 7.00 - 8.00 - 10.00.

SERIES 352

Standard safety relief valve with diaphragm with controlled rise for fluids and neutral gases. Connection MF 1/2"x1/2" and 1/2"x3/4". Brass body. AISI 302 stainless steel spring. EPDM PEROX shutter seal. EPDM PEROX diaphragm. Threaded angle connections MF UNI-EN-ISO 228. Max admissible pressure Ps 12 bar. Max. operating pressure 120 °C. Orifice diameter 15 mm. Opening overpressure +10 %. Closing discard pressure -20%. Allowed fluid water-air (Gr.2). Compliant with Directive PED 2014/68/EU. Available calibrations (bar): 1.50 - 2.00 - 2.50 - 3.00 - 3.50 - 4.00 - 4.50 - 5.00 - 6.00 - 7.00 - 8.00 - 10.00.

SERIES 353

Standard safety relief valve with diaphragm with controlled rise for fluids and neutral gases, with dial pressure gauge. Connection FF 1/2"x1/2" and 3/4"x3/4". Brass body. AISI 302 stainless steel spring. EPDM PEROX shutter seal. EPDM PEROX diaphragm. Threaded angle connections FF UNI-EN-ISO 228. Pressure gauge connection F 1/4" UNI-UN-ISO 228. Max admissible pressure Ps 12 bar. Max. operating pressure 120 °C. Orifice diameter 15 mm. Opening overpressure +10 %. Closing discard pressure -20%. Allowed fluid water-air (Gr.2). Pressure gauge scale 0 ÷ 4 bar for valves < 4 bar and 0 ÷ 10 bar for valves > 4 bar. Compliant with Directive PED 2014/68/EU. Available calibrations (bar): 1.50 - 2.00 - 2.50 - 3.00 - 3.50 - 4.00 - 4.50 - 5.00 - 6.00 - 7.00 - 8.00 -10.00.

SERIES 354

Standard safety relief valve with diaphragm with controlled rise for fluids and neutral gases, with dial pressure gauge. Connection MF 1/2"x1/2". Brass body. AISI 302 stainless steel spring. EPDM PEROX shutter seal. EPDM PEROX diaphragm. Threaded angle connections MF UNI-EN-ISO 228. Pressure gauge connection F 1/4" UNI-UN-ISO 228. Max admissible pressure Ps 12 bar. Max. operating pressure 120 °C. Orifice diameter 15 mm. Opening overpressure +10 %. Closing discard pressure -20%. Allowed fluid water-air (Gr.2). Pressure gauge scale 0 ÷ 4 bar for valves < 4 bar and 0 ÷ 10 bar for valves > 4 bar. Compliant with Directive PED 2014/68/EU. Available calibrations (bar): 1.50 - 2.00 - 2.50 - 3.00 - 3.50 - 4.00 - 4.50 - 5.00 - 6.00 - 7.00 - 8.00 - 10.00.

SERIES 666

Drain channel composed of fitting elbow and collection funnel to reset back pressure at drainage. Brass body. Channel connections MM UNI-EN-ISO 228. Funnel connections FF UNI-EN-ISO 228. Max operating pressure 110 °C. Available diameters 3/4" - 1" - 1"1/4 - 1"1/2.



RBM spa reserves the right to improve and change the described products and related technical data at any moment and without prior notice: always refer to the instructions attached with the supplied components; this sheet is an aid, should the instructions be extremely schematic. Our technical department is always at your disposal for any doubt, problem or clarification.

