ESKA

Gas Technologies

ERG & ERG-E Series

ESKA

Sakarya 1. Organize Sanayi Bölgesi Mah. 11. Cad. No: 6-8, Arifiye/Sakarya/Türkiye
Phone : +90 (264) 502 54 34-35-83 Fax : +90 (264) 502 54 84 E-mail : info@eskavalve.com

www.eskavalve.com

Why ESKA?

With a deep understanding of the need for manufacturers to be close to gas distribution companies understanding their requirements and providing tailored solutions, ESKA grew to become a leading manufacturer of gas stream equipment. We start every day with a belief that change is constant, and the flexibility to follow that change and provide up to date solutions is crucial in the energy sector.

We manufacture gas stream equipment that are designed based on the needs of our partners. We strive to help gas distribution companies provide safe energy to their clients and to assist our partners with flexible business models that promote mutual growth.

Our commitment is to continually improve our products, ensuring the highest standards of safety and quality at an affordable cost, protecting end users while supporting our partners' success.

60 Years Know-how

Global Reach in 65 Countries

Localized Support

Application Area

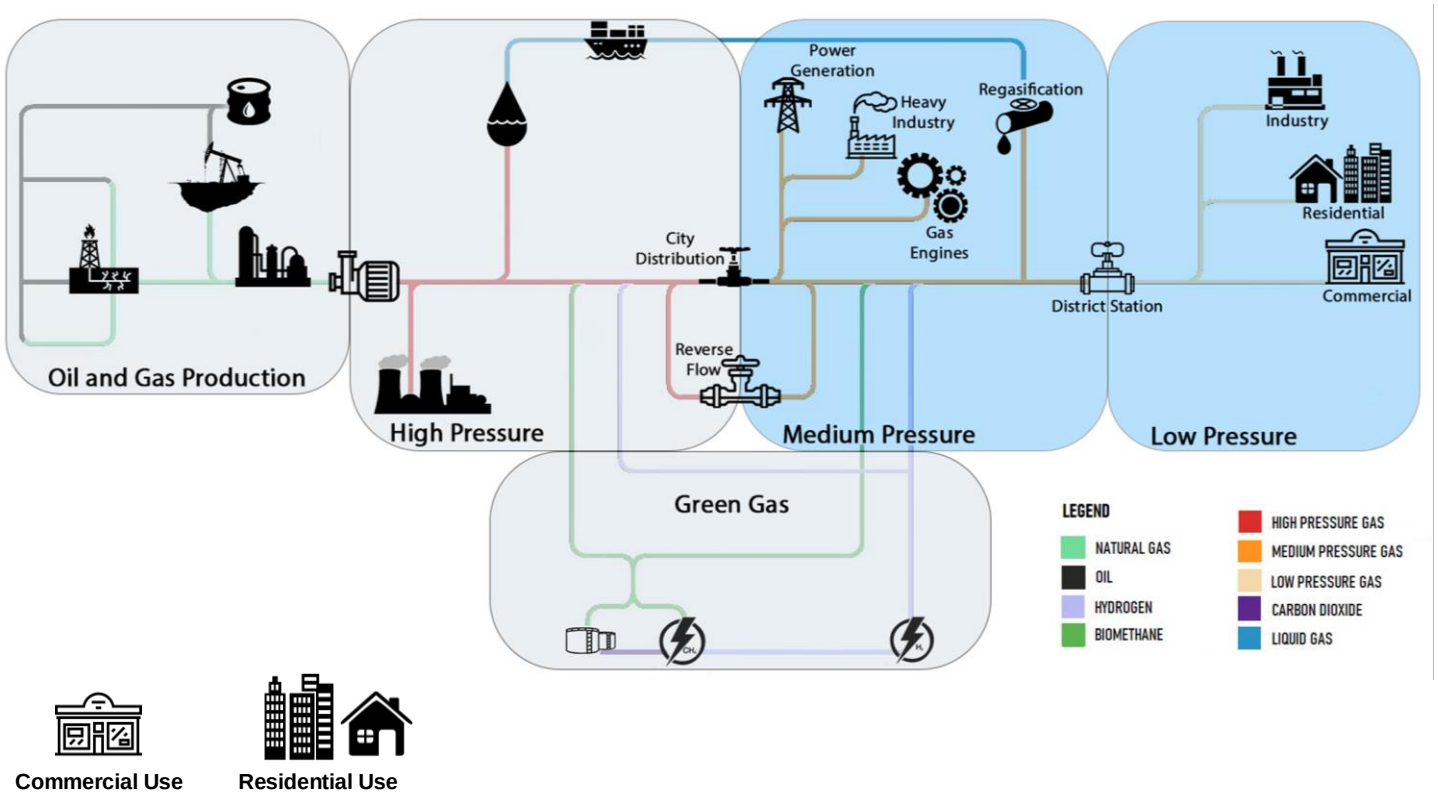
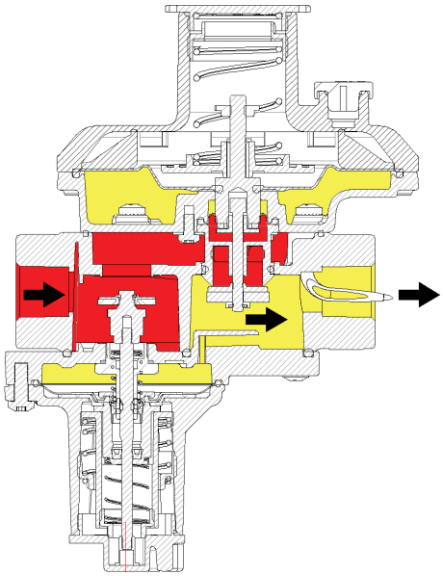


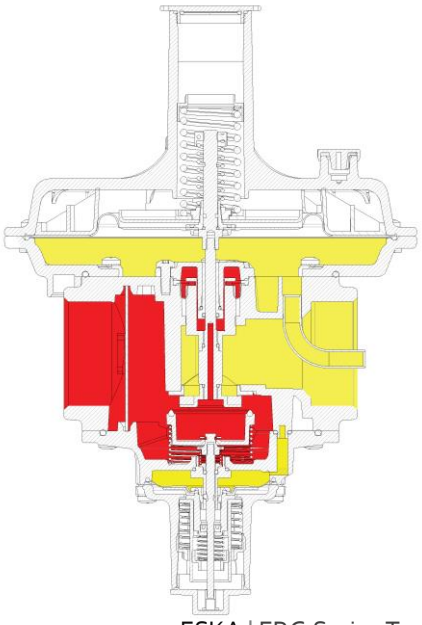
Figure 1: Gas Distribution Map

Introduction

ERG-E series safety shut-off gas pressure regulators help the devices following it in the gas line to operate safely. The gas pressure regulator reduces the inlet pressure to the desired/adjusted outlet pressure and maintains the outlet pressure within the tolerance range, and if the outlet pressure increases or decreases to undesirable levels above the safety set pressure (within its tolerances), it automatically detects this situation and automatically cuts off the gas in the line and remains closed until it is manually set again. The gas pressure regulator has high pressure and low pressure gas safety shut-off device integrated into it. The low-pressure safety shut-off device of these devices may not be integrated into the product if requested in the order. The gas pressure regulator may have a discharge system that opens to air if requested in the order, in which case the necessary precautions must be taken to prevent the discharged gas from filling the closed environment.

Note: Unlike the above information, ERG series products are gas pressure regulators without safety shut-off. High and low pressure safety shut-off systems are not available in these series products. In the case of using ERG series products, additional precautions should be taken against unwanted excessive pressure increases and decreases that may occur at the line outlet. ERG-E and ERG series gas pressure regulators are single-stage, direct-operation principle, internal sensing, spring-driven. This product should be used in accordance with the current regulations and the user manual. The regulators are manufactured according to Ped Directive 2014/68/EU. The functional tests are performed according to EN334 and EN 88-2.





Features

ERG-E series gas pressure regulators are used in the gas lines in order to reduce maximum 1 bar input pressure to the desired output pressure between 18 and 100 mbar. The range of the output pressure can be set with the choice of a different spring. The regulator with safety stopping gets automatically active and stops the gas flow in case that the input pressure gets higher or lower than the adjusted value in order to ensure the safety of the devices used in the system thanks to the safe stopping system it includes.

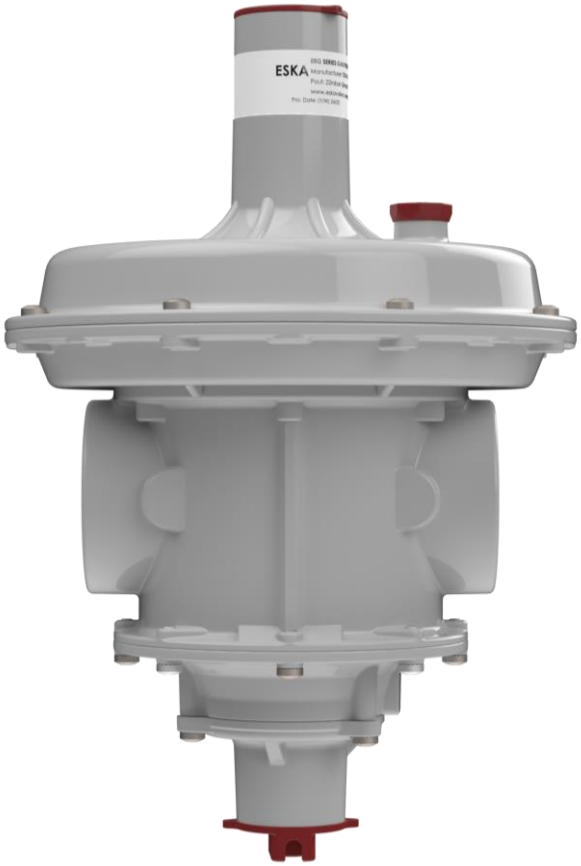


Figure 2: ERG E (OPSO version)

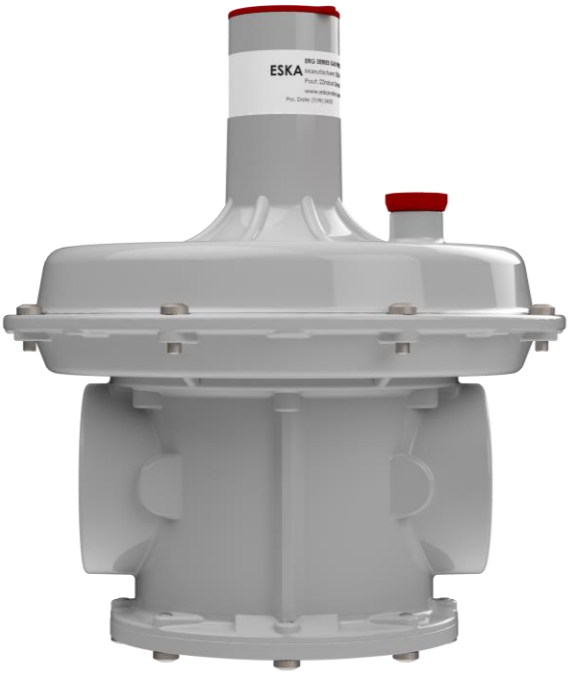


Figure 3: ERG (Non-OPSO version)

Characteristics

Table 1: ERG Series characteristics

Feature	Values		
Design Pressure	PS0.6, PS1, PS2		
Inlet Pressure	(0.05 to 0,5 bar) [3]		
Flow	8 to 200 m^3/h		
Outlet Pressure Range (Wd)	(18 - 100 mbar) [3]		
Safety shut-off Pressure Range (Wdo)	45 – 180 mbar		
Accuracy Class (AC)	±10% AC10, ±5% AC5[1] or ±20% AC20[1]		
Lock-up over pressure (SG)	±5% SG5[1], ±10% SG10[1], ±20% SG20[1] or ±30% SG30		
	Standard Versions		LT Version[2]
Ambient temperature	-10°C to 50°C	-20°C to 60°C	-40°C to 60°C
Configuration	Inline		
Connections	Standard Inlet (DN15, DN20, DN25, DN32, DN40, DN50) [4]		

[1] Upon request
[2] The stated value is the temperature at which the device's mechanical resistance and leakage are tested. Extra body parts may not be suitable for that version.
[3] The standard inlet and outlet pressure are set as per TS EN 10624, EN 88-1, EN 88-2, EN 334
[4] Different modular connection options include BSPP, BSPT and NPT

Materials and Approvals

Table 2: ERG Series Materials and Approvals

Part	Material*	Standard
Body and Cover	Aluminium	EN 1706
Diaphragm and	Nitril Rubber	EN 549
Seat	Brass, Aluminium	EN 12164-EN12165, EN1706

*Above materials are listed for standard models. For other request please refer to our sales team or your local distributer.

The ERG-H Series regulator is designed according to European standard EN 334 and Turkish standard TS 10624. The regulator reacts in opening (Fail Open) according to EN 334.
The product is certified according to European Directive 2014/68/EU (PED)

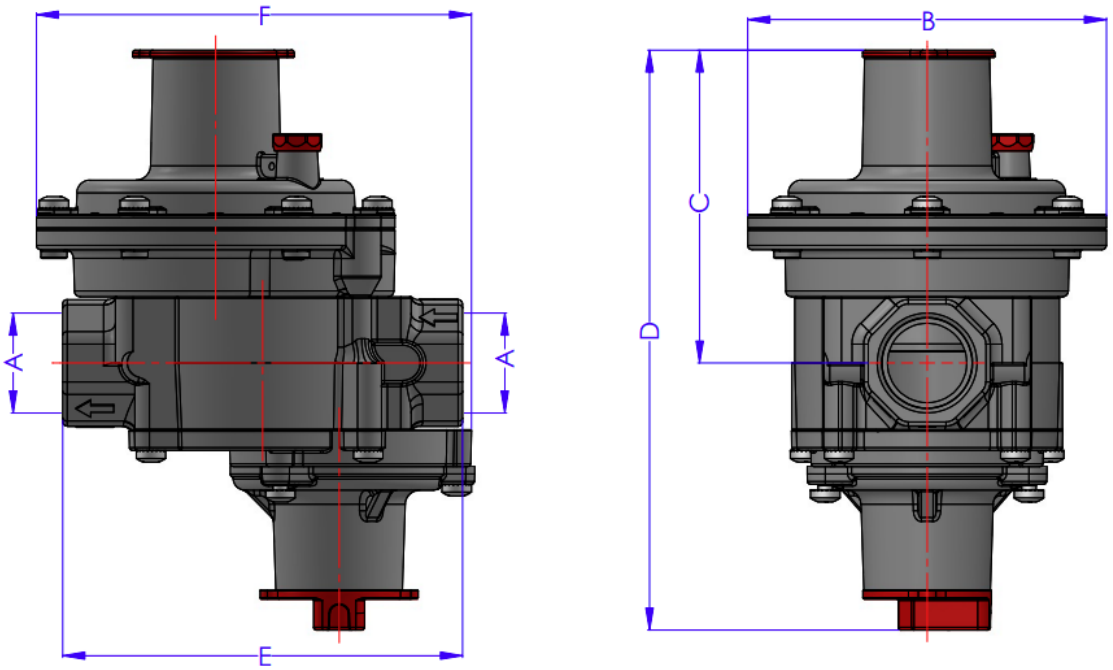

EN 334


EN 14382


TS 10624

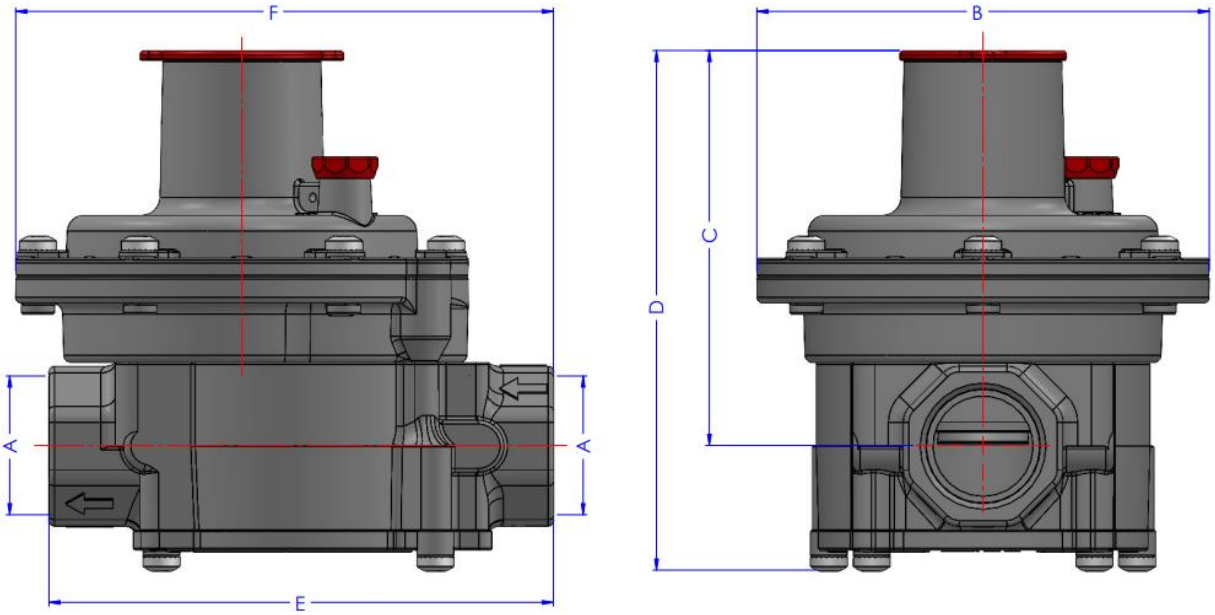

PED

Technical Data



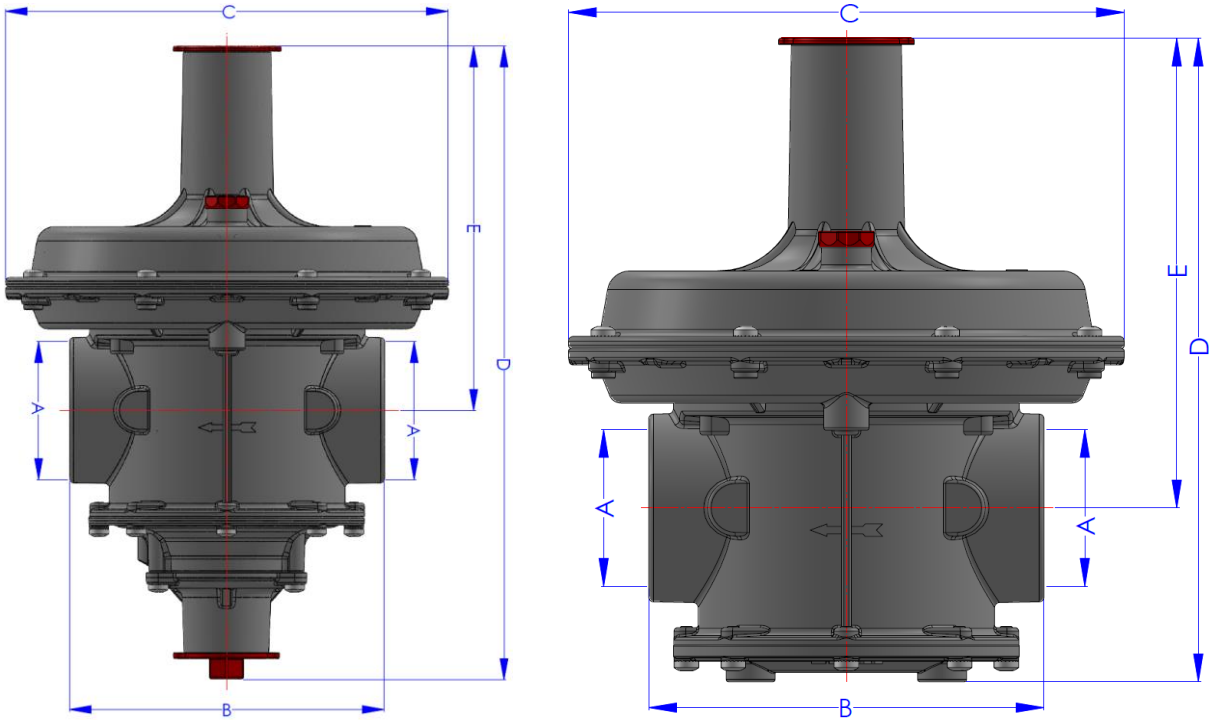
MODEL	A	B	C	D	E	F
ERG-E 1015	1/2''	Ø122	106	197	136	148
ERG-E 1020	3/4''	Ø122	106	197	136	148
ERG-E 1025	1''	Ø122	106	197	136	148
*** The unit of the above values is mm**						

Figure 4: ERG-E Technical Dimensions



MODEL	A	B	C	D	E	F
ERG 1015	1/2''	Ø122	106	140	136	145
ERG 1020	3/4''	Ø122	106	140	136	145
ERG 1025	1''	Ø122	106	140	136	145
*** The unit of the above values is mm**						

Figure 5: ERG Technical Dimensions



MODEL	A	B	C	D	E
ERG-E 1032	1 1/4”	160	225	311	183
ERG-E 1040	1 1/2”	160	225	311	183
ERG-E 1050	2’’	162	225	333	192
ERG 1032	1 1/4”	160	225	237	183
ERG 1040	1 1/2”	160	225	237	183
ERG 1050	2’’	162	225	259	192
*** The unit of the above values is mm**					

Figure 6: ERG-E and ERG Technical Dimensions

Capacity Table

Table 3: ERG Series Capacity Tables

ERG-ERG-E DN15												
Inlet Pressure			Outlet Pressure									
			15(mbar)/1,5kPa		21(mbar)/2,1kPa		25(mbar)/2,5kPa		50(mbar)/5kPa		100(mbar)/10kPa	
mbar	PSI	kPa	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)
50	1	5	8	9,1	8	9,1	8	9,1	-	-	-	-
100	1	10	9	10,3	12	13,7	12	13,7	13	14,8	-	-
300	4	30	15	17,1	15	17,1	15	17,1	15	17,1	20	22,8
500	7	50	15	17,1	15	17,1	15	17,1	15	17,1	25	28,5
1000	15	100	15	17,1	15	17,1	15	17,1	15	17,1	25	28,5
*The values in the table are for AC10												

ERG-ERG-E DN20												
Inlet Pressure			Outlet Pressure									
			15(mbar)/1,5kPa		21(mbar)/2,1kPa		25(mbar)/2,5kPa		50(mbar)/5kPa		100(mbar)/10kPa	
mbar	PSI	kPa	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)
50	1	5	17	19,4	16	18,2	15	17,1	-	-	-	-
100	1	10	17	19,4	20	22,8	17	19,4	15	17,1	-	-
300	4	30	25	28,5	25	28,5	25	28,5	30	34,2	40	45,6
500	7	50	30	34,2	30	34,2	30	34,2	35	39,9	50	57,0
1000	15	100	30	34,2	30	34,2	30	34,2	35	39,9	50	57,0
*The values in the table are for AC10												

ERG-ERG-E DN25												
Inlet Pressure			Outlet Pressure									
			15(mbar)/1,5kPa		21(mbar)/2,1kPa		25(mbar)/2,5kPa		50(mbar)/5kPa		100(mbar)/10kPa	
mbar	PSI	kPa	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)
50	1	5	23	26,2	21	23,9	20	22,8	-	-	-	-
100	1	10	25	28,5	25	28,5	22	25,1	22	25,1	-	-
300	4	30	40	45,6	40	45,6	40	45,6	60	68,4	70	79,8
500	7	50	50	57,0	50	57,0	50	57,0	70	79,8	80	91,2
1000	15	100	50	57,0	50	57,0	50	57,0	70	79,8	80	91,2
*The values in the table are for AC10												

ERG-ERG-E DN32												
Inlet Pressure			Outlet Pressure									
			15(mbar)/1,5kPa		21(mbar)/2,1kPa		25(mbar)/2,5kPa		50(mbar)/5kPa		100(mbar)/10kPa	
mbar	PSI	kPa	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)
50	1	5	40	45,6	40	45,6	50	57,0	-	-	-	-
100	1	10	60	68,4	60	68,4	70	79,8	80	91,2	-	-
300	4	30	85	96,9	85	96,9	85	96,9	140	159,6	140	159,6
500	7	50	100	114,0	100	114,0	100	114,0	140	159,6	150	171,0
1000	15	100	100	114,0	100	114,0	100	114,0	140	159,6	150	171,0
*The values in the table are for AC10												

ERG-ERG-E DN40												
Inlet Pressure			Outlet Pressure									
			15(mbar)/1,5kPa		21(mbar)/2,1kPa		25(mbar)/2,5kPa		50(mbar)/5kPa		100(mbar)/10kPa	
mbar	PSI	kPa	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)
50	1	5	40	45,6	40	45,6	60	68,4	-	-	-	-
100	1	10	70	79,8	70	79,8	90	102,6	100	114,0	-	-
300	4	30	100	114,0	100	114,0	100	114,0	170	2017,8	170	193,8
500	7	50	120	136,8	120	136,8	120	136,8	170	193,8	180	205,2
1000	15	100	120	136,8	120	136,8	120	136,8	170	193,8	180	205,2
*The values in the table are for AC10												

ERG-ERG-E DN50												
Inlet Pressure			Outlet Pressure									
			15(mbar)/1,5kPa		21(mbar)/2,1kPa		25(mbar)/2,5kPa		50(mbar)/5kPa		100(mbar)/10kPa	
mbar	PSI	kPa	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)	Sm³/h	Kg/h (LPG)
50	1	5	40	45,6	55	62,7	75	85,5	-	-	-	-
100	1	10	80	91,2	80	91,2	110	125,4	130	148,2	-	-
300	4	30	120	136,8	120	136,8	120	136,8	200	228,0	200	228,0
500	7	50	140	159,6	140	159,6	140	159,6	200	228,0	200	228,0
1000	15	100	140	159,6	140	159,6	140	159,6	200	228,0	200	228,0
*The values in the table are for AC10												

To find the flows for other types of gases, the following formula should be used:

Adjustment Factor K at 15ºC	
Butane	0,55
Propene	0,64
Oxygen	0,76
Air	0,78
Nitrogen	0,81
Biogas	0,85
City Gas	1,23
Hydrogen	3,04
LPG	0,62

Condition: +15°C, 1013 mbar,
Q (n)m³/h (naturalgas) x K = Q (n)m³/h (x gas)
Example: Q (n)m³/h (naturalgas) x 0,78 = Q (n)m³/h (air)

Regulation Spring Table

Table 4: ERG Series Regulation Spring Table

Regulation Spring			Spring Range (mbar)	
Spring Code	**Spring Name**	**Spring Color**	**Min.**	**Max.**
PDM00003679	6N-32N	Grey	18	30
PDM00003821	13,3N-30,6N	Green	30	60
PDM00003822	27N-75N	Yellow	60	100
PDM00003825	25,3-57,7N	Green	18	30
PDM00003829	32N-144N	Yellow	30	60
PDM00003835	84N-250N	Blue	60	100
*The values in the table are for AC10				

OPSO Spring Table

Table 5: ERG OPSO Spring Table

OPSO Spring			Spring Range (mbar)	
Spring Code	Spring Name	Spring Color	Min.	Max.
PDM00003684	18N-30N	Grey	45	180

Packaging

Table 6: ERG Series Packing Information

Product	Number or Items	Unit Weight	Package Size (LxWxH cm)	Number of Boxed Products in 1 Package	Total Package Weight	Pallet Total Items	Pallet Total Weight
ERG DN15-25	1	Approximately 1,7 kg	50x50x29	15	Approximately 26 kg	360	Approximately 612 kg
ERG DN32-DN50	1	Approximately 4 kg	50x50x29	4	Approximately 16 kg	96	Approximately 385 kg

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ERG SERIES
USER MANUAL

This manual is subject to change according to technical developments.

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