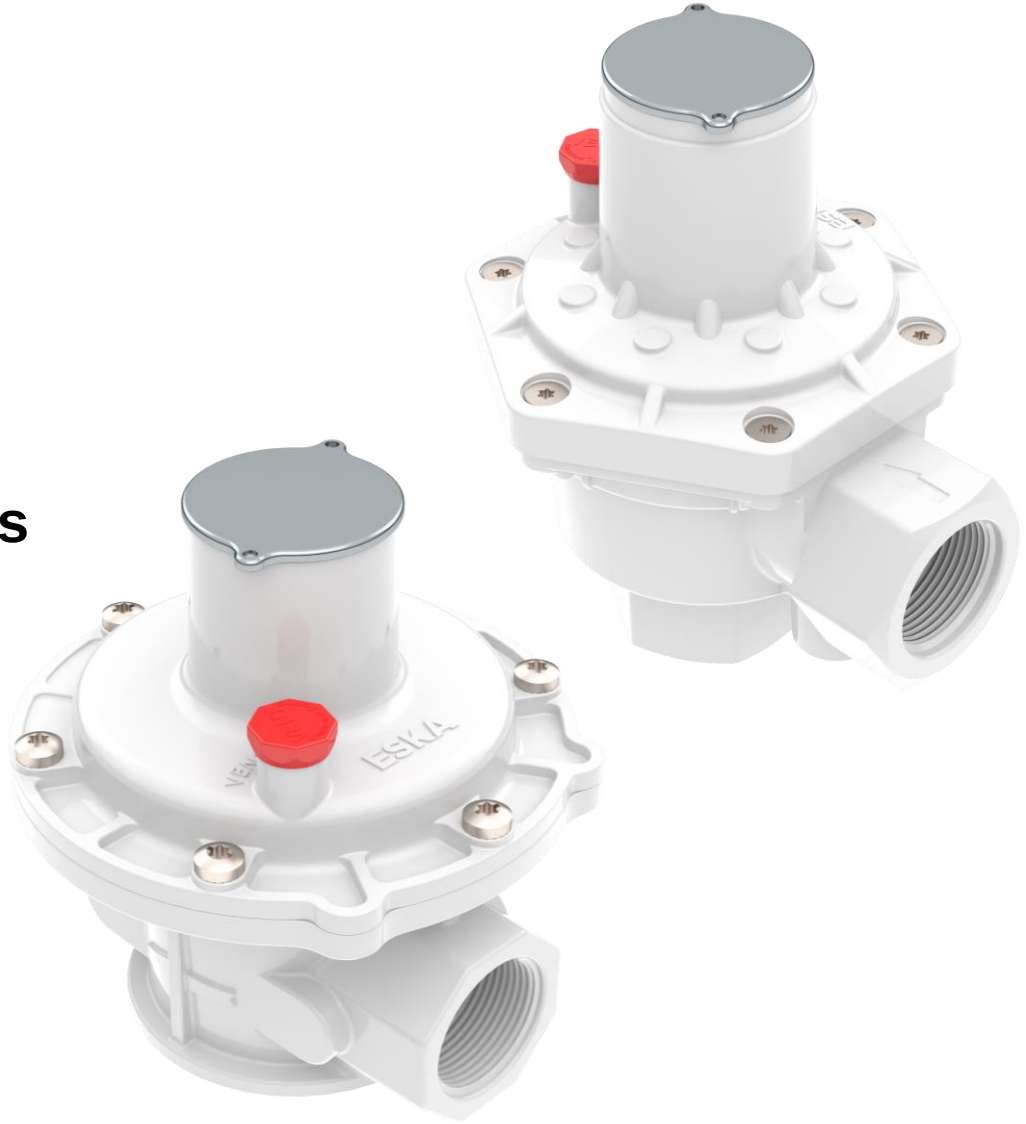


ETV Series



ESKA

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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

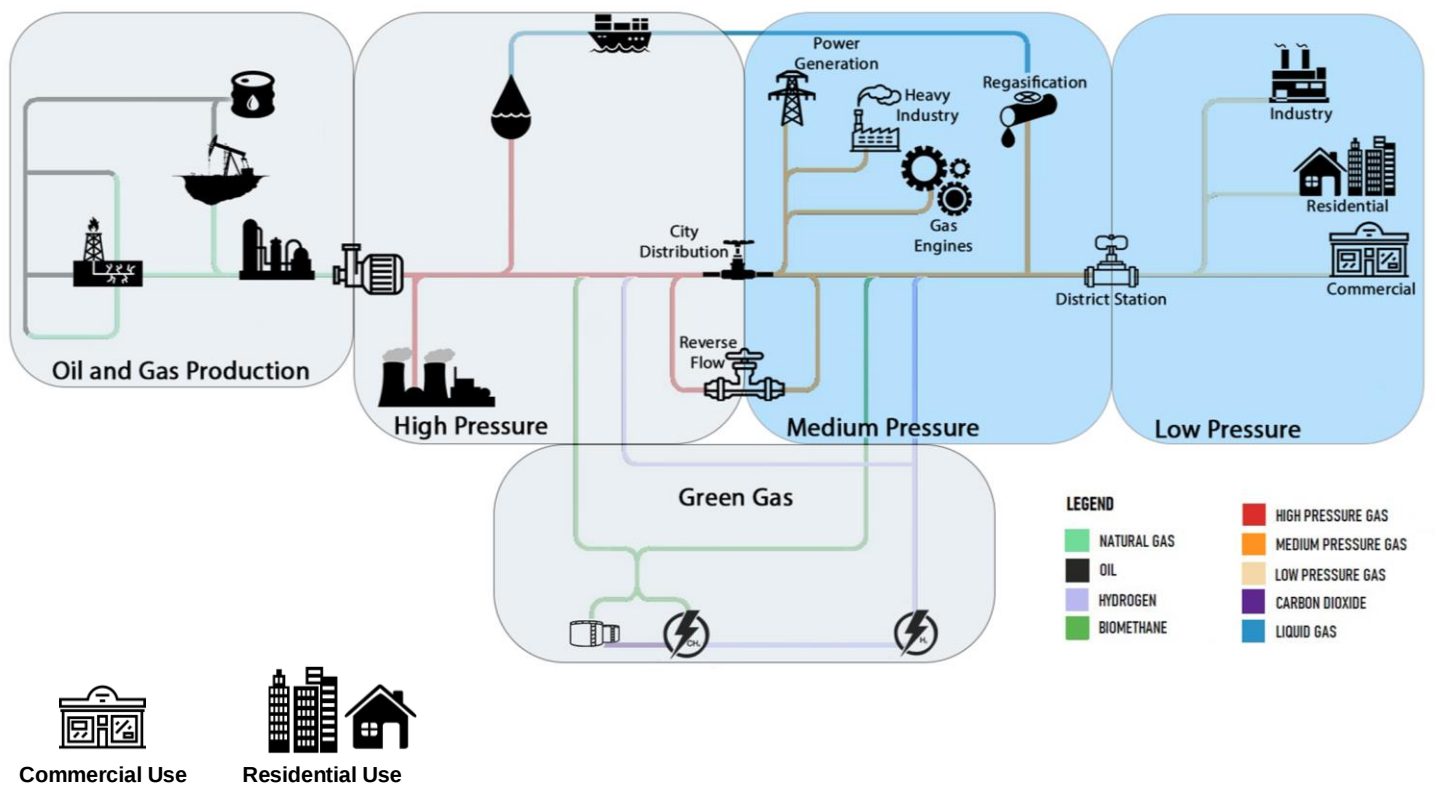


Figure 1: Gas Distribution Map

Introduction

ETV series, A device that can operate without any energy assistance other than the relevant fluid, is closed (i.e. ready to operate) in normal operating conditions and is defined as safety relief valves to prevent activation if there is a safety closing device (opso) in the system, and its function is to automatically start (release/discharge) a certain amount of gas flow from the pressurized system from its outlet side in case the pressure in the system to be protected increases and the safety relief valve reaches the preset response pressure. Later, in operating conditions, when the normal pressure conditions in the system are restored, the valve is designed to close automatically again and prevent further fluid passage. Safety relief valves; Safety valves that resist the fluid pressure under the diaphragm only with a direct mechanical load such as a spring. No gas can leak into the atmosphere and/or the installation room during normal operation.

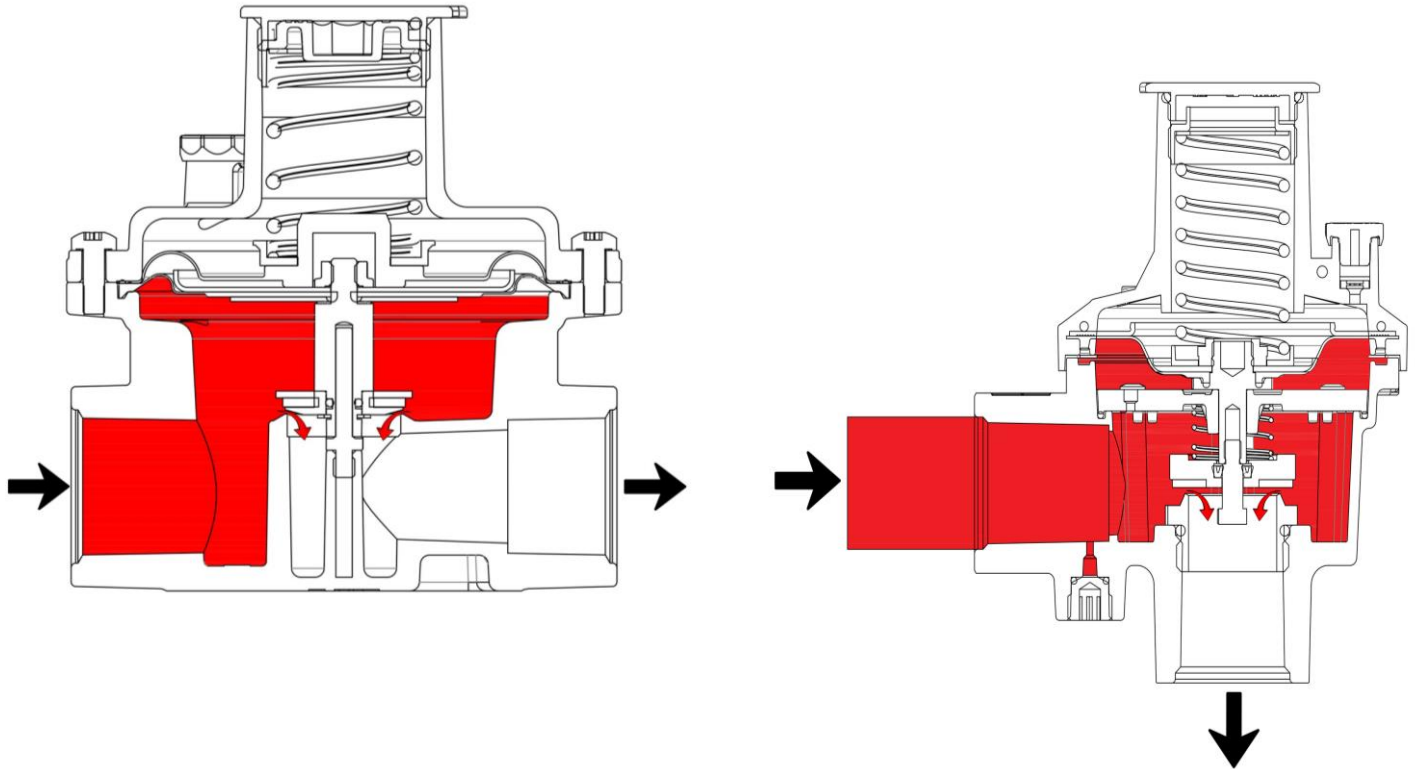


Figure 2: ETV-D1 and ETV-S7 Pressure Display

Features

The product is of the type that closes in case of failure. Therefore; in case of failure due to the main diaphragm breaking-tearing-perforating; it means that the inlet pressure also affects the diaphragm and the valve flap will close completely or partially towards the orifice with the spring force. Safety relief valves normally have a vent hole and a vent connection. In this case, it is possible to discharge the pressure accumulation that may occur in the event of a failure in the main membrane with an exhaust connection system that can be attached to this vent connection. Upon request, these valves can be manufactured without a vent hole and a vent connection. ETV-D1 models are manufactured with a double membrane (i.e. protective membrane). This prevents gas passage through the vent hole in the event of a failure of the main membrane. Upon request, this protective membrane may not be placed.

For ETV-D1 and ETV-S7 models; products are manufactured without test nipples in normal production.

For ETV-D1 and ETV-S7 models; There are three different adjustment head systems in order to make the pressure adjustment more accurate. These are LP, MP and HP models.



Figure 3: ETV-D1

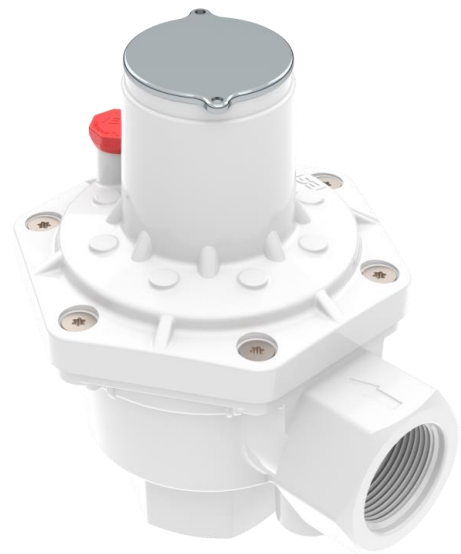


Figure 4: ETV-S7

Characteristics

Table 1: ETV Series characteristics

Feature	Values		
Design Pressure	ETV-D1: PS2		ETV-S7: PS20
Relief Pressure Range	ETV-D1: 20-1000 mbar		ETV-S7: 21-7000 mbar
Flow	ETV-D1: 2,5-225 m³/h		ETV-S7: 0,8-225 m³/h
Accuracy Class (AC)	±2,5% AC2,5 ¹ , ±5% AC5 ¹ , ±10% AC10, ±20% AC20 ¹ ,		
Lock-up over pressure (SG)	-10% SG10 ¹ or +20% SG20		
	Standard Versions		LT Version ²
Ambient temperature	-10°C to 50°C	-20°C to 60°C	-40°C to 60°C
Configuration	ETV-D1: Inline		ETV-S7: Angle
Connections	Standard Inlet (1") ³ , Standard outlet:(1") ³		
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 Different modular connection options include BSPP, BSPT and NPT			

Materials and Approvals

Table 2: ETV Series Materials and Approvals

Part	Material*	Standard
Body and Cover	Aluminium	EN 1706
Diaphragm and	Nitril Rubber	EN 549
Seat	Brass	EN 12164-EN12165
*Above materials are listed for standard models. For other request please refer to our sales team or your local distributor.		

The ETV Series is designed according to European standard EN 14382, EN ISO 4126-1.

The product is certified according to European Directive 2014/68/EU (PED)



EN 14382



EN ISO 4126



PED

Technical Data

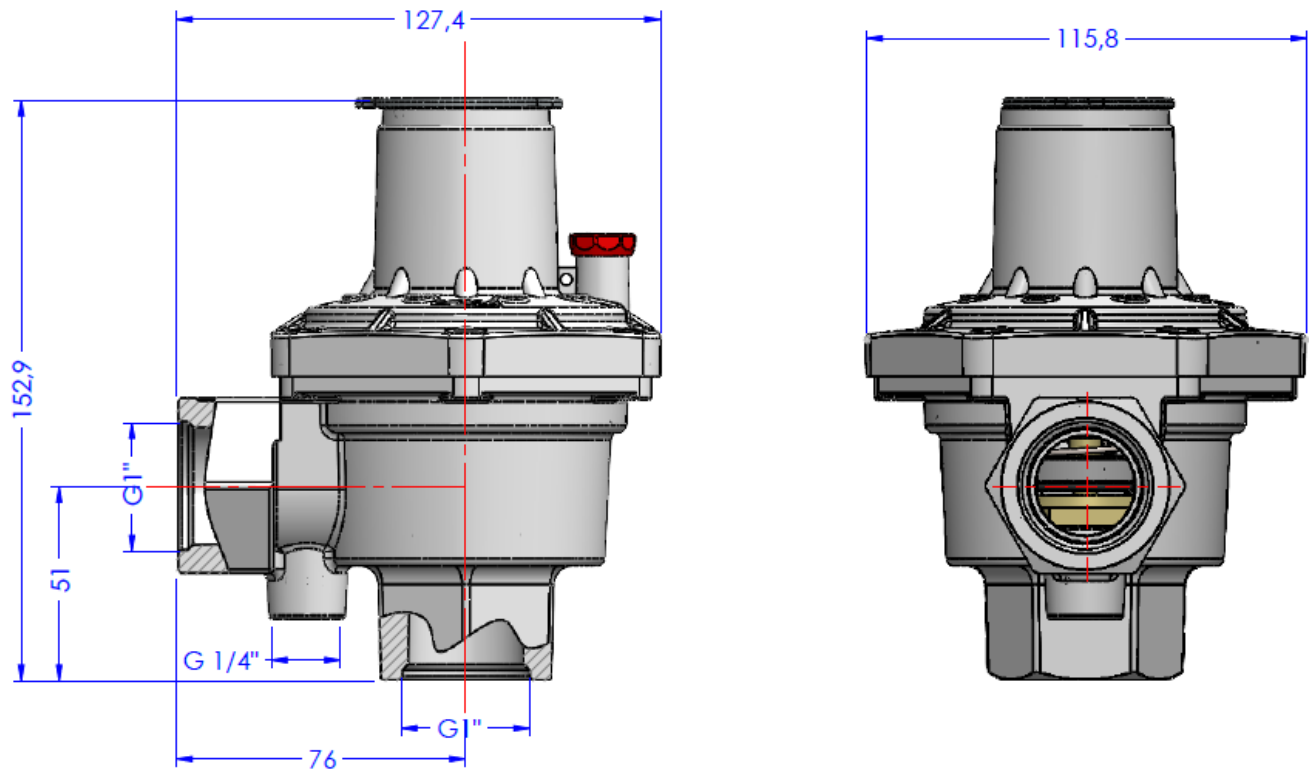


Figure 5: ETV-D7 Technical Dimensions

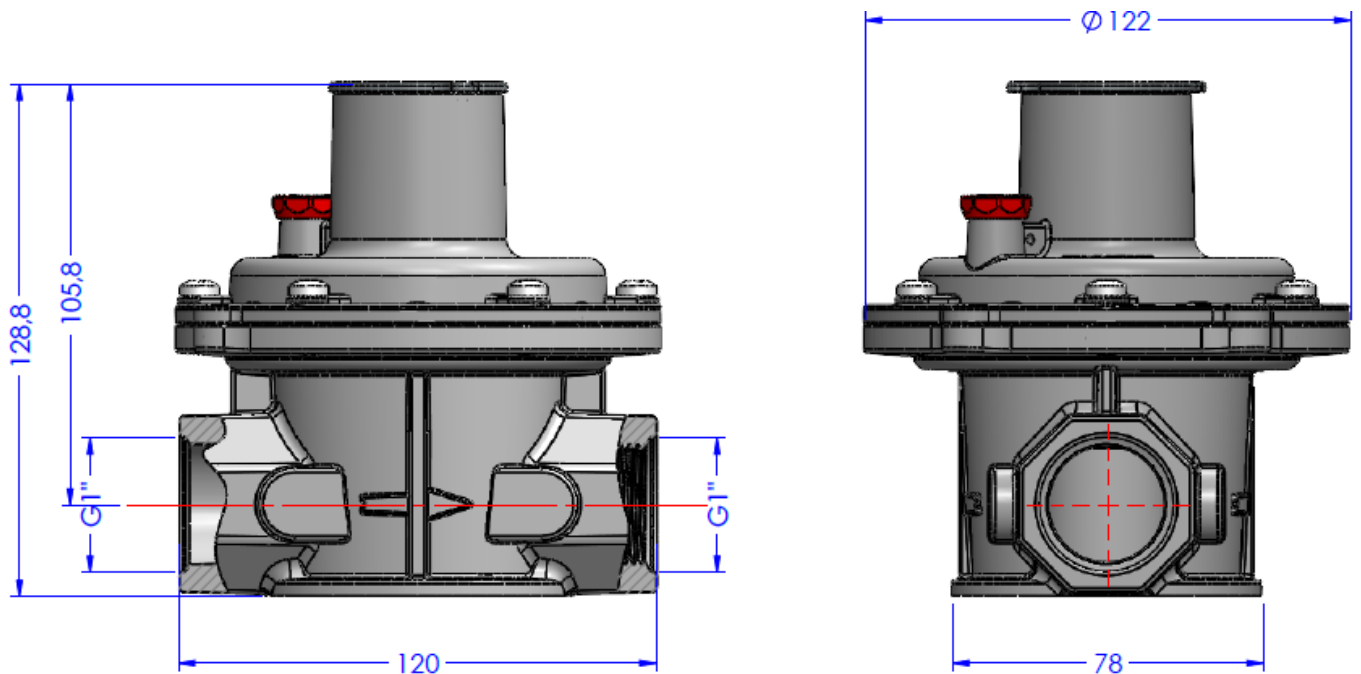


Figure 6: ETV-D1 Technical Dimensions

Capacity Table

Table 3: ETV Series Capacity Tables

ETV- S7								
Pressure (mbar)	AC 2,5		AC 5		AC 10		AC 20	
	sm ³ /h (NG)	Kg/h (LPG)	sm ³ /h (NG)	Kg/h (LPG)	sm ³ /h (NG)	Kg/h (LPG)	sm ³ /h (NG)	Kg/h (LPG)
21	0,8	0,9	1,4	1,6	2,5	2,9	8,1	9,2
30	0,9	1,0	1,6	1,8	8,6	9,8	28,3	32,3
50	0,9	1,0	1,6	1,8	6,3	7,2	36,7	41,8
100	1,0	1,1	1,9	2,2	32,7	37,3	114,9	131,0
150	1,4	1,6	2,8	3,2	7,4	8,4	35,6	40,6
200	0,9	1,0	1,9	2,2	14,7	16,8	57,4	65,4
300	1,2	1,4	2,3	2,6	60,0	68,4	130,0	148,2
500	15,0	17,1	30,4	34,7	145,0	165,3	225,0	256,5
750	3,6	4,1	6,5	7,4	110,0	125,4	225,0	256,5
1000	4,0	4,6	8,1	9,2	114,0	130,0	225,0	256,5
1500	5,8	6,6	11,6	13,2	130,0	148,2	225,0	256,5
2000	1,2	1,4	2,5	2,9	120,0	136,8	225,0	256,5
3000	2,5	2,9	5,4	6,2	120,0	136,8	225,0	256,5
4000	4,2	4,8	8,6	9,8	100,0	114,0	225,0	256,5
5000	1,2	1,4	2,5	2,9	90,0	102,6	225,0	256,5
6000	6,0	6,8	14,0	16,0	80,0	91,2	225,0	256,5
7000	5,0	5,7	15,0	17,1	85,0	96,9	225,0	256,5

ETV - D1								
Pressure (mbar)	AC 2,5		AC 5		AC 10		AC 20	
	sm ³ /h (NG)	Kg/h (LPG)	sm ³ /h (NG)	Kg/h (LPG)	sm ³ /h (NG)	Kg/h (LPG)	sm ³ /h (NG)	Kg/h (LPG)
20,0	2,5	2,9	5,0	5,7	9,0	10,3	13,3	15,2
30,0	3,0	3,4	7,1	8,1	8,8	10,0	13,4	15,3
50,0	1,5	1,7	2,3	2,6	9,7	11,1	24,4	27,8
75,0	2,7	3,1	5,4	6,2	16,4	18,7	47,8	54,5
100,0	4,5	5,1	9,8	11,2	21,7	24,7	73,9	84,2
150,0	12,0	13,7	24,4	27,8	73,3	83,6	115,0	131,1
200,0	14,2	16,2	29,0	33,1	96,5	110,0	144,2	164,4
300,0	12,6	14,4	25,3	28,8	76,3	87,0	88,2	100,5
400,0	12,0	13,7	24,4	27,8	77,3	88,1	170,3	194,1
500,0	11,0	12,5	21,3	24,3	82,3	93,8	202,0	230,3
750,0	45,7	52,1	91,6	104,4	217,0	247,4	225,0	256,5
1000,0	7,6	8,7	15,3	17,4	67,5	77,0	131,1	149,5

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

Adjustment Factor K at 15°C	
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,
 $Q \text{ (n)m}^3/\text{h (naturalgas)} \times K = Q \text{ (n)m}^3/\text{h (x gas)}$
 Example: $Q \text{ (n)m}^3/\text{h (naturalgas)} \times 0,78 = Q \text{ (n)m}^3/\text{h (air)}$

Spring Tables

Table 4: ETV Series Spring Tables

ETV-D1 Relief Spring		Spring Range (mbar)	
Spring Code	Spring Color	Min.	Max.
PDM00002299	Uncolored	18	25
PDM00003787	Grey	35	49
PDM00003821	Green	50	79
PDM00003797	Green	80	129
PDM00003798	Blue	130	159
PDM00003801	Yellow	160	229
PDM00003803	Red	230	279
PDM00003708	Yellow	280	349
		350	499
PDM00003806	Black	500	1000

ETV-S7 Relief Spring		Spring Range (mbar)	
Spring Code	Spring Color	Min.	Max.
PDM00002299	White	15	24
PDM00002229	Black	25	44
PDM00002062	Grey	45	64
PDM00003797	Green	65	99
PDM00003798	Blue	100	149
PDM00003803	Red	150	299
PDM00003806	Black	300	499
PDM00003708	Yellow	500	819
PDM00003714	Blue	820	2299
PDM00003719	Red	2300	7000

Packaging

Table 5: ETV Series Packing Information

Product	Number or Items	Box Dimensions (LxWxH cm)	Unit Weight	Box Weight	Total Box Weight	Pallet Total Items	Pallet Total Weight
ERG-S7	1	14x17x20	Approximately 1 kg	0,15 kg	1,15 kg	400	Approximately 460 kg
ERG-D1	1	14x13,5x13,5	Approximately 0,9 kg	0,12 kg	1,02 kg	600	Approximately 612 kg

ESKA



ETV
USER MANUAL

This manual is subject to change according to technical developments.

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