ESKA

Gas Technologies

ERG H5

Direct Actine Gas Pressure Regulator

ESKA

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About Us

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

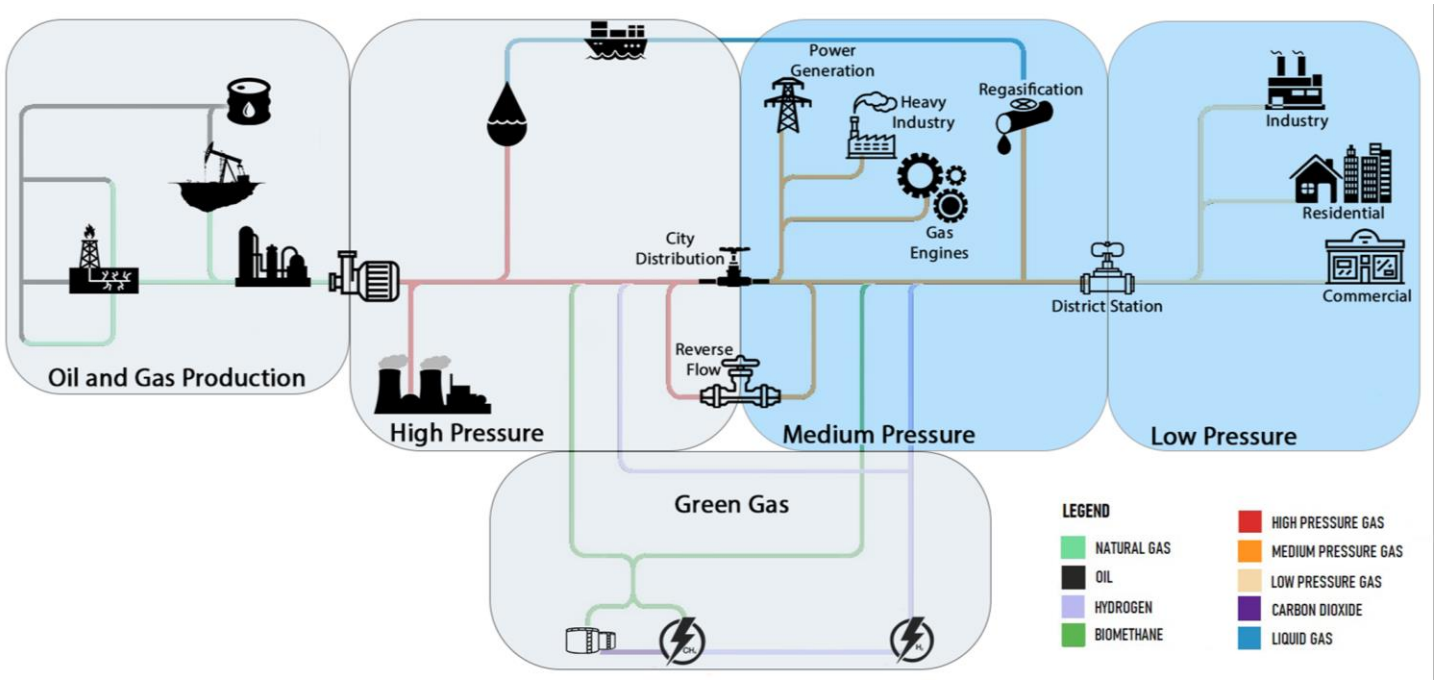


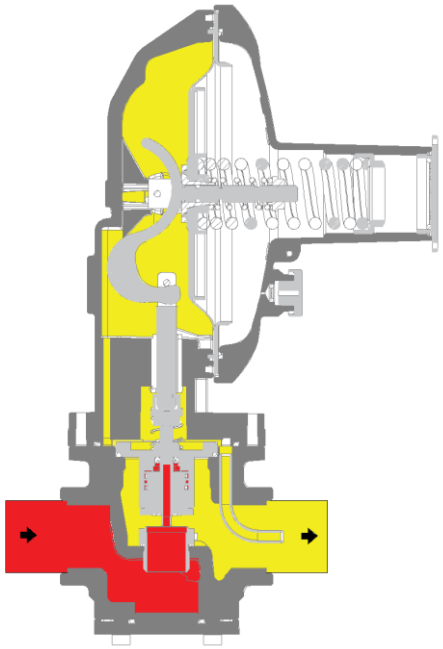
Figure 1: Gas Distribution Map

Area of Service:

Introduction

The ERG-H5 Series is a high-performance, direct-acting gas pressure regulator designed for efficient control of inlet pressure to achieve a stable, desired outlet pressure. It is ideally suited for medium and low-pressure natural gas distribution networks and is also compatible with pretreated non-corrosive gaseous fluids. Widely used in commercial and industrial applications, the ERG-H5 offers optional safety features such as a relief valve, UPSO, and OPSO systems, ensuring reliable and secure operation. Classified as Fail Open, the ERG-H5 complies with the European Standard EN334 and is engineered for versatility and durability in demanding environments.

Figure 2: ERG-HZ5 Pressure Display



Inlet Pressure Outlet Pressure

Features

The ERG-H5 is a direct-acting gas pressure regulator designed for medium to high-pressure applications in both domestic and industrial settings. It effectively reduces inlet pressures ranging from 0,5 to 20 bar to desired outlet pressures between 21 mbar and 2.5 bar, ensuring precise control with an accuracy class of AC10 (±10%). The regulator features a lock-up pressure tolerance of up to +10% and can be equipped with safety mechanisms such as overpressure shut-off (OPSO), under pressure shut-off (UPSO), and a relief valve. Operating efficiently within a standard temperature range of -20°C to +60°C, the ERG-H5 also offers a low-temperature variant capable of functioning at temperatures as low as -40°C. Its inline flow direction and "top entry" design facilitate easy maintenance without the need to remove the body from the pipeline.

In practical applications, the ERG-H5 is particularly beneficial in natural gas distribution networks, where maintaining consistent pressure is crucial for safety and efficiency. For instance, in industrial facilities utilizing gas-fired equipment, the ERG-H5 ensures that machinery receives gas at optimal pressures, thereby enhancing performance and reducing the risk of equipment damage due to pressure fluctuations. It is also actively used in cabinet solutions such as S300.

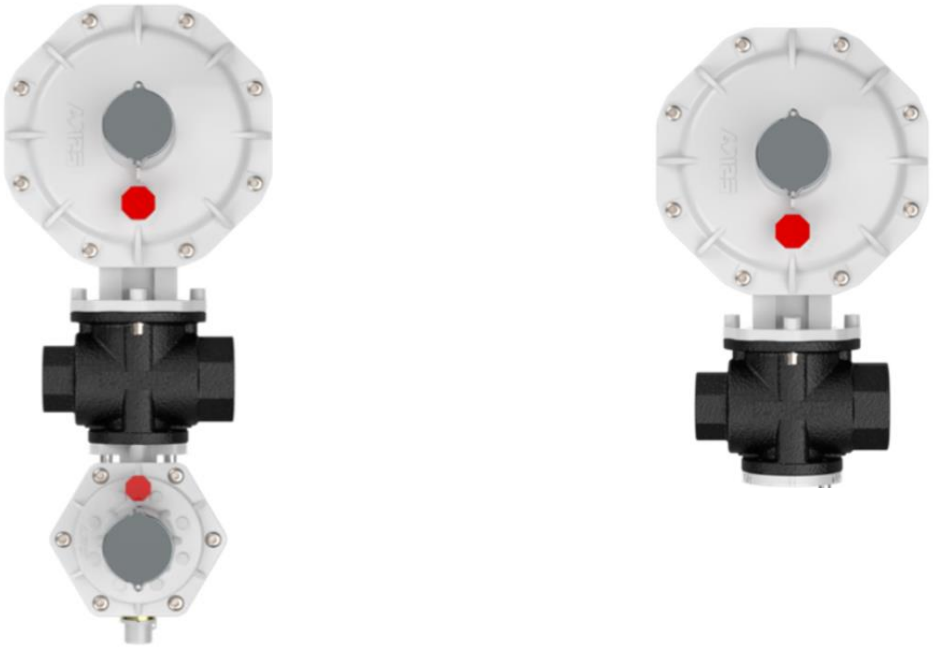


Figure 3: ERG-H5/HZ5

Characteristics

Feature	Values		
Design Pressure	PS4, PS6, PS10, PS16, PS20		
Inlet Pressure	0,5 to 20 bar		
Flow	Up to 500 m3/hour (natural gas)		
	LPO Version	**MPO Version**	**HPO Version**
Outlet Pressure Range (Wd)	18-99 mbar	100-299 mbar	300-2500 mbar
Safety shut-off Pressure Range (Wdo)	30-5500 mbar		
Safety shut-off Pressure Range (Wdu)	10-3200 mbar		
Accuracy Class (AC)	±10% AC10, ±5% AC5[1] or ±20% AC20[1]		
Lock-up over pressure (SG)	+%10 SG10[1], +%20 SG20, +%30 SG30[1]		
	Standard Versions		LT Version[2]
Ambient temperature	-10°C to 60°C	-20°C to 60°C	-40°C to 60°C[3]
Configuration	Inline		
Connections	Standard Threaded Inlet (DN25")[4], outlet:(DN25 or DN40)[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 EN 334 standard.
[4] Threaded connection as EN 10266-2, TS EN ISO 228-1, ASME B1.20.1 NPT Standards.

Table 1: ERG H5 Series characteristics

Materials

Part	Material*	Standard
Body	Cast Iron EN GJS 400-15 (GGG40)	EN 1563
Seat	Brass	EN 12164 and/or 12165
Cover	Aluminum EN AC 43500	EN 1706
Diaphragm	Elastomer, Fabric-Reinforced and Non-Reinforced NBR	EN 549

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

Table 2: ERG-H5 Series Materials

The ERG-H1 Series regulator is designed according to European standard EN 334. The regulator reacts in opening (Fail Open) according to EN 334. The product is certified according to European Directive 2014/68/EU (PED)

EN334

PED

Approvals

The ERG H5 regulator is meticulously designed in compliance with the European standard EN 334, guaranteeing exceptional performance and reliability. It incorporates a fail-open mechanism that ensures safety and efficiency, responding dynamically to pressure variations as per EN 334 requirements. Furthermore, the ERG H5 is certified under the European Directive 2014/68/EU (PED), demonstrating its conformity to rigorous safety and pressure equipment standards.

Figure 4: ERG-H5

Technical Data

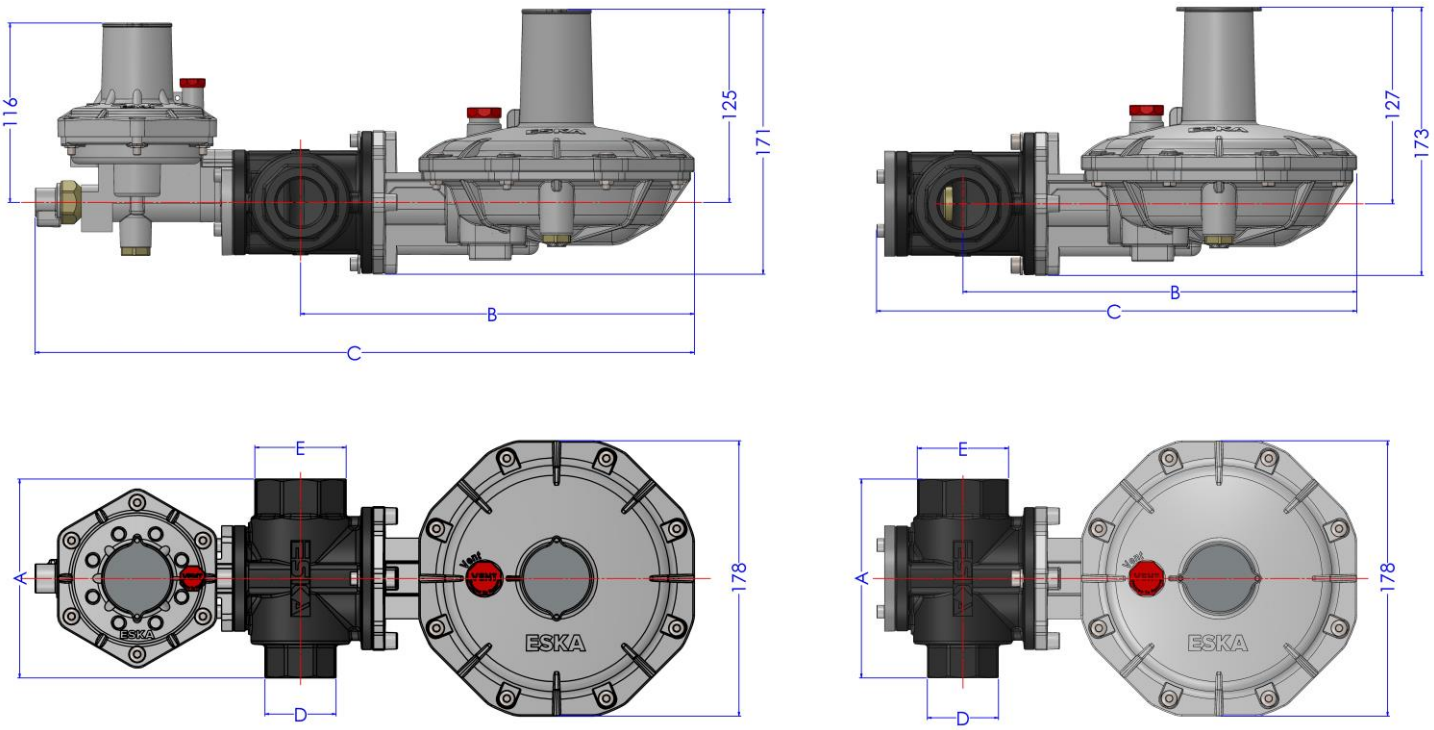


Figure 5: ERG H5 Technical Dimensions

Nominal Diameter	DN25xDN25	DN25xDN40
Size (inches)	1” x 1”	1” x 1-1/2”
A	100	129
B	254	254
C	428	438
D	1”	1”
E	1”	1-1/2”

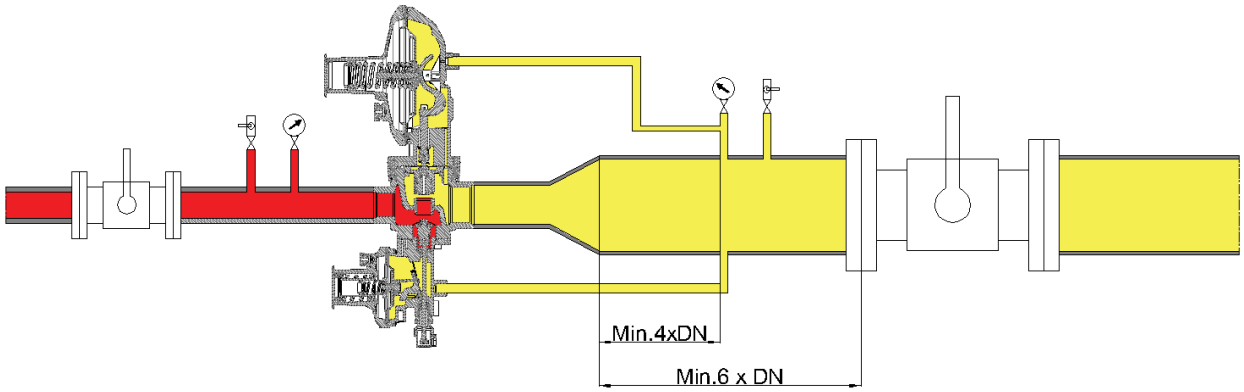
Table 3: ERG-H5 Dimensions

Nominal Diameter	DN25xDN25	DN25xDN40
Size (inches)	1” x 1”	1” x 1-1/2”
A	100	129
B	254	254
C	291	438
D	1”	1”
E	1”	1-1/2”

Table 4: ERG-HZ5 Dimensions

Installation Options

Standard Regulator

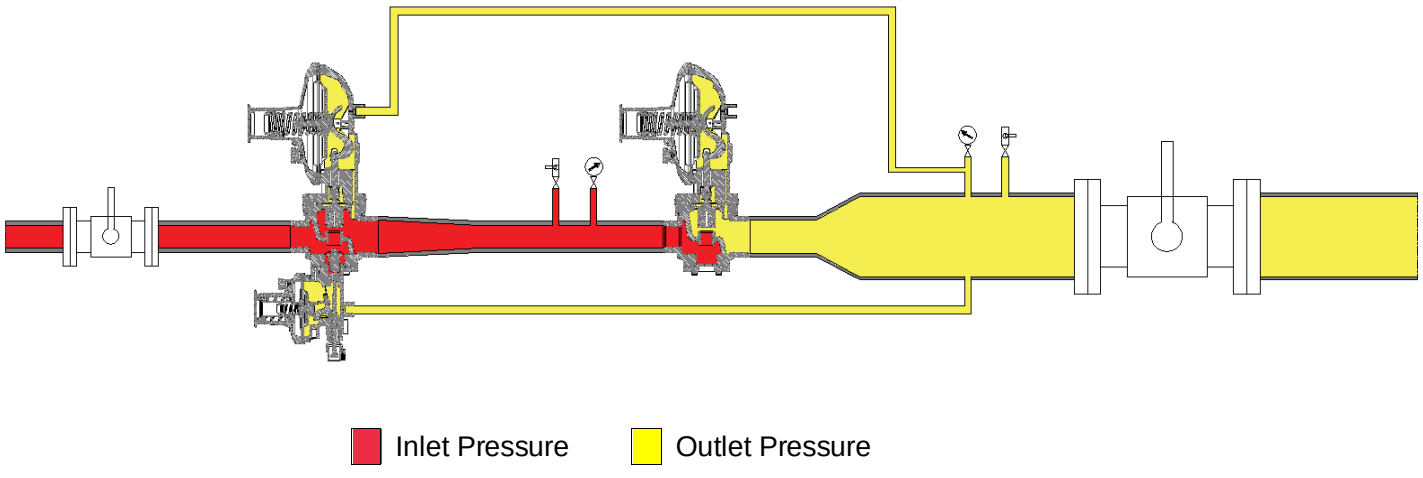


In-Line Monitor

The monitor regulator is installed on the line before the active regulator.

Although the function of the monitor regulator is different, the two regulators are almost identical in terms of mechanical components. The only difference is that the monitor regulator is set to a higher pressure than the active regulator.

The flow rate of the monitor regulator is lower than that of the active regulator. Therefore, losses of approximately 10-20% occur in the Kg and Cg values.



Capacity Table

ERG-H5 DN25 x DN25 / 1" x 1"												
Inlet Pressure			Outlet Pressure									
			100(mbar)/10kPa		300(mbar)/30kPa		800(mbar)/80kPa		1000(mbar)/100kPa		2500(mbar)/250kPa	
barg	PSI	MPa	Sm³/h	Kg/h	Sm³/h	Kg/h	Sm³/h	Kg/h	Sm³/h	Kg/h	Sm³/h	Kg/h
0,5	7,25	0,05	80	91,2	70	79,8	-	-	-	-	-	-
1	14,5	0,1	110	125,4	120	136,8	60	68,4	-	-	-	-
1,5	21,75	0,15	170	193,8	175	199,5	110	125,4	110	125,4	-	-
2	29	0,2	190	216,6	210	239,4	160	182,4	160	182,4	-	-
3	43,5	0,3	190	216,6	255	290,7	240	273,6	230	262,2	180	205,2
4	58	0,4	190	216,6	310	353,4	330	376,2	320	364,8	290	330,6
5	72,5	0,5	190	216,6	310	353,4	350	399	360	410,4	350	399
6...20	87...290	0,6...2	190	216,6	310	353,4	380	433,2	400	456	400	456
*The values in the table are for AC 10												

ERG-H5 DN25 x DN25 / 1" x 1"1/2												
Inlet Pressure			Outlet Pressure									
			100(mbar)/10kPa		300(mbar)/30kPa		800(mbar)/80kPa		1000(mbar)/100kPa		2500(mbar)/250kPa	
barg	PSI	MPa	Sm³/h	Kg/h	Sm³/h	Kg/h	Sm³/h	Kg/h	Sm3/h	Kg/h	Sm3/h	Kg/h
0,5	7,25	0,05	110	125,4	50	57	-	-	-	-	-	-
1	14,5	0,1	180	205,2	165	188,1	55	62,7	-	-	-	-
1,5	21,75	0,15	290	330,6	250	285	100	114	130	148,2	-	-
2	29	0,2	320	364,8	330	376,2	150	171	180	205,2	-	-
3	43,5	0,3	320	364,8	400	456	200	228	270	307,8	230	262,2
4	58	0,4	320	364,8	400	456	260	296,4	350	399	350	399
5	72,5	0,5	320	364,8	400	456	260	296,4	450	513	450	513
6...20	87...290	0,6...2	320	364,8	400	456	260	296,4	450	513	500	570
*The values in the table are for AC 10												

Table 5: ERG-H5 Series Capacity Tables

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 (Natural Gas) x K = Q (n)m³/h (x Gas)

Example: Q (n)m³/h (Natural Gas) x 0,78 = Q (n)m³/h (Air)

Debi Çevrimi
(Nm³/h)= Sm³/h x 0,947

Regulation Spring Table

Regulation Spring		LP-MP		HP	
Spring Code	Spring Color	Min.	Max.	Min.	Max.
PDM00003829	Yellow	60	100	-	-
PDM00003763	Black	100	170	-	-
PDM00003782	Blue	170	300	-	-
PDM00004024	Grey	-	-	300	600
PDM00004025	Green	-	-	600	1050
PDM00003784	White	-	-	1050	1700
PDM00003785	Yellow	-	-	1700	2500
PDM00003791	Red	-	-	350	500

Table 6: ERG-H5 Series Regulation Spring Table

OPSO Spring Table

OPSO Springs		Spring Range (mbar)	
Spring Code	Spring Color	Min.	Max.
PDM00002304	Yellow	32	60
PDM00004252	Orange	60	180
PDM00003764	Red	180	500
PDM00004253	Green	500	700
PDM00004254	Black	700	1300
PDM00003765	Orange	1300	2000
PDM00004255	Grey	2000	3200
PDM00003766	Blue	3200	5500

Table 7: ERG-H5 OPSO Spring Table

Relief Spring Table

Relief Springs		Spring Range (mbar)	
Spring Code	Spring Color	Min	Max
PDM00003723	Black	6	60
PDM00003726	Green	60	500
PDM00003731	Red	500	1000
PDM00004249	White	1000	2000
PDM00004250	Blue	2000	3500

Table 8: ERG-H5 Series Relief Spring Table

UPSO Spring Table

Relief Springs		Spring Range (mbar)	
Spring Code	Spring Color	Min	Max
PDM00007693	Yellow	10	30
PDM00007694	Orange	30	130
PDM00003726	Green	130	700
PDM00003731	Red	500	1000
PDM00004249	White	1000	2000
PDM00004250	Blue	2000	3200

Table 9: ERG-H5 Series UPSO Spring Table

Packaging

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-H5	1	Approximately 5,2 kg	48x22x20	1	5,2 kg	90	Approximately 480 kg
ERG-HZ5	1	Approximately 4 kg	48x22x20	1	4 kg	90	Approximately 360 kg

Table 10: ERG H5 Series Packing Information

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ERG-H5
USER MANUAL

This manual is subject to change according to technical developments.

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