

# REGULATORS

## HBS 200-1-2



- Korkeapaine säädin - Kaksivaiheinen
- Asennus 200 bar kaasupullo - Tarkka säätely
- Sopivat puhtaat kaasut ja seokset, ei syövyttävä
- Kromattua messinkiä

Laboratoriot ja analysit

### Domains of applications

HBS-säätimet on suunniteltu sovelluksiin, joissa tarvitaan erittäin tarkkaa paineen säätöä. Käytetään laboratorioissa ja tuotantolaitoksissa kalibrointikaasuihin, kanto-kaasuihin, ilmakehän luomiseen ...

#### Designed for implementation of:

Syövyttämättömät puhtaita kaasuja jopa N60 lukien Alphagaz™ 1 & 2, Ei-syövyttäviä seoksia pitoisuus on suurempi kuin 1 ppm

### Specifications

Maximal inlet pressure at 15°C ..... 200 bar  
 Outlet Pressure..... 0,05 to 1 bar  
 Nominal nitrogen flow ..... 2 Nm<sup>3</sup>/h\*  
 Set pressure ..... 16 bar

Sisäinen/ulkoinen vuoto nopeus ≤ 3x10<sup>-7</sup> mbar.l/s Heliumia, Käyttölämpötila: -20 °C + 50 °C: ssa.

\*Takuu enimmäislähtöpaineella P2 enintään tulopaineeseen P3 = 2P2 + 1 bar.

### Materials

Body ..... Kromi messinkipäällysteinen  
 Ensimmäinen vaihe PCTFE, Messinkinen 2. liipaisin  
 Seat .....  
 Ensimmäinen vaihe Brass, Messinki EPDM 2. liipaisin  
 Main valve.....  
 Bellow ..... Pronssi  
 Kupari metalliseos mekanismi, Ø  
 Pressure gauge ..... 50mm, Seal PA 6.6  
 Tiiviste EPDM, Lautasventtiilin pronssista, Elin 303 ruostumaton-  
 Relief valve ..... ta terästä

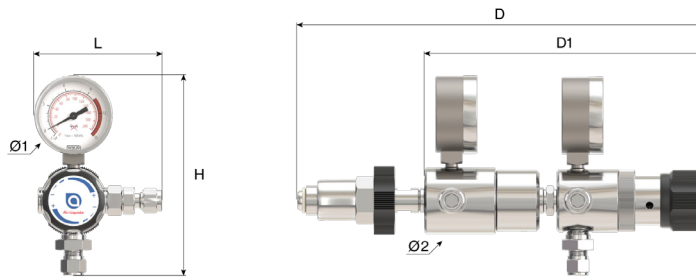
Monel® on tavaramerkki Special Metals Oy.

### Safety Alert

⚠ Varoitus! Jos käytetään palavien kaasujen, kaikki tyhjennys- ja ylivuoto venttiilit on kerättävä.

# Dimensions

**Length (L)** : 90 mm  
**Height (H)** : 129 mm  
**Depth (D)** : 265 mm  
**Depth (D1)** : 183 mm  
**Ø1** : 50 mm  
**Ø2** : 44 mm  
**Net weight** : 1.22 kg



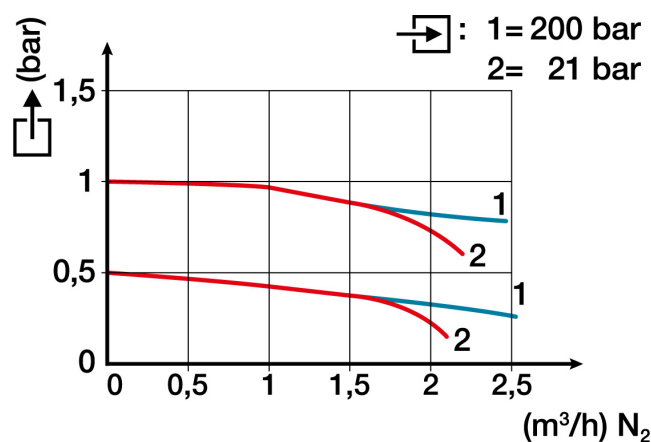
# Operating instructions

OP 150 - HBS

## Connection

**Inlet connection:** HP sylinteri mukaisen liittimen kaasun  
**Outlet connection:** 2 pakoaukkojen G 3/8 BSPP naaras  
**Relief valve connection:** Op-Brass puristusliitin 6mm, Brass Puristusholkit

# Flow curve







# Products

Product Number	Short Designation	Gas	Inlet Pressure	Outlet Pressure	Flow	Inlet Fitting	Inlet Fitting Form	Outlet Fitting	Material
122892	REG HBS 200-1-2 DIN 14 - CF 6MM	Ei-reaktiivinen mix	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 14		CF 6mm	Messinki
213328	REG HBS 200-1-2 DIN-9	seokset	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 9	Jakoavain Cr-Brass	G 3/8 BSPP naaras	Messinki
122887	REG HBS 200-1-2 DIN 1/B8 - CF 1/8"	H2	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 1	Jakoavain Cr-Brass	CF 1/8"	Messinki
122888	REG HBS 200-1-2 DIN 1/B8 - CF 6MM	H2	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 1	Jakoavain Cr-Brass	CF 6mm	Messinki
122889	REG HBS 200-1-2 DIN 1/B8 - HN 4MM	H2	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 1	Jakoavain Cr-Brass	HF 4 / 6mm	Messinki
122879	REG HBS 200-1-2 DIN 10 - CF 1/8"	N2	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 10	Jakoavain Cr-Brass	CF 1/8"	Messinki
122880	REG HBS 200-1-2 DIN 10 - CF 6MM	N2	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 10	Jakoavain Cr-Brass	CF 6mm	Messinki
122881	REG HBS 200-1-2 DIN 10 - HN 4MM	N2	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 10	Jakoavain Cr-Brass	HF 4 / 6mm	Messinki
122899	REG HBS 200-1-2 DIN 11 - CF 1/8"	N2O	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 11	Jakoavain Cr-Brass	CF 1/8"	Messinki
122900	REG HBS 200-1-2 DIN 11 - CF 6MM	N2O	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 11	Jakoavain Cr-Brass	CF 6mm	Messinki
122901	REG HBS 200-1-2 DIN 11 - HN 4MM	N2O	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 11	Jakoavain Cr-Brass	HF 4 / 6mm	Messinki
122895	REG HBS 200-1-2 DIN 13 - CF 1/8"	ilma	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 13	Jakoavain Cr-Brass	CF 1/8"	Messinki
122896	REG HBS 200-1-2 DIN 13 - CF 6MM	ilma	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 13	Jakoavain Cr-Brass	CF 6mm	Messinki

Product Number	Short Designation	Gas	Inlet Pressure	Outlet Pressure	Flow	Inlet Fitting	Inlet Fitting Form	Outlet Fitting	Material
122897	REG HBS 200-1-2 DIN 13 - HN 4MM	ilma	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 13	Jakoavain Cr-Brass	HF 4 / 6mm	Messinki
122891	REG HBS 200-1-2 DIN 14 - CF 1/8"	Ei-reaktiivinen mix	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 14	Jakoavain Cr-Brass	CF 1/8"	Messinki
122893	REG HBS 200-1-2 DIN 14 - HN 4MM	Ei-reaktiivinen mix	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 14	Jakoavain Cr-Brass	HF 4 / 6mm	Messinki
122883	REG HBS 200-1-2 DIN 6/B5 - CF 1/8"	CO2, O2	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 6	Jakoavain Cr-Brass	CF 1/8"	Messinki
122884	REG HBS 200-1-2 DIN 6/B5 - CF 6MM	CO2, O2	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 6	Jakoavain Cr-Brass	CF 6mm	Messinki
122885	REG HBS 200-1-2 DIN 6/B5 - HN 4MM	CO2, O2	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 6	Jakoavain Cr-Brass	HF 4 / 6mm	Messinki
193402	REG HBS 200-1-2 DIN 1	H2	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 1	Jakoavain Cr-Brass	G 3/8 BSPP naaras	Messinki
193400	REG HBS 200-1-2 DIN 10	N2	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 10	Jakoavain Cr-Brass	G 3/8 BSPP naaras	Messinki
193405	REG HBS 200-1-2 DIN 11	N2O	200 bar	1 bar	2 Nm³/h	UNI 11144 Nr.9		G 3/8 BSPP naaras	Messinki
193404	REG HBS 200-1-2 DIN 13	ilma	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 13	Jakoavain Cr-Brass	G 3/8 BSPP naaras	Messinki
192195	REG HBS 200-1-2 DIN 14		200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 14	Jakoavain Cr-Brass	G 3/8 BSPP naaras	Messinki
193401	REG HBS 200-1-2 DIN 6	CO2, O2	200 bar	1 bar	2 Nm³/h	DIN 477-1 Nr. 6	Jakoavain Cr-Brass	G 3/8 BSPP naaras	Messinki

## Options

	Product Number	Long designation
	16516	CONN. G3/8 BSPP M NIP. F/PIPE Ø 4-6MM
	16521	Connector Cr-Brass G3/8 BSPP Male *Compression fitting 1/8" OD Brass *Flat seal PTCFE
	16522	CONNECTION G 3/8" Male Compression Fitting 6 MM Br
	16523	Connector Cr-Brass G3/8 BSPP Male *Compression fitting 1/4" OD Brass *Flat seal PTCFE
	16524	Connector Cr-Brass G3/8 BSPP Male *Compression fitting 10mm OD Brass *Flat seal PTCFE
	16526	Connector Cr-Brass G3/8 BSPP Male *Compression fitting 8mm OD Brass *Flat seal PTCFE
	16532	Connector SS G3/8 BSPP Male *Kit N°2 CF 1/8" and 6mm OD SS *Flat seal PTCFE
	16558	Connector SS G3/8 BSPP Male *Compression fitting 6mm OD SS *Flat seal PTCFE

	Product Number	Long designation
	16562	COMP. FITTING G3/8" 8 MM SS
	16564	CONNECTION G 3/8 BSPP Male - CF 3/8" - Stainless S
	16566	Connector SS G3/8 BSPP Male *Compression fitting 1/8" OD SS *Flat seal PTCFE
	16567	Connector SS G3/8 BSPP Male *Compression fitting 10mm OD SS *Flat seal PTCFE
	16569	Connector SS G3/8 BSPP Male *Compression fitting 12mm OD SS *Flat seal PTCFE
	19207	LEAK DETECTOR "1000 BULLES"
	19286	Liitäntä G3/8 BSPP M NIP. Ø 8-10MM BR

## Spare parts

Product Number	SP Number	Long designation
122892	15969	PAINEMITTARI 0- 200/315 Bar Ø 50mm Pystysuora sisäänmeno M10x1 Messinki-Cr - Runko S.Teräs
	17141	FLAT SEAL in PTCFE 14,5x10x2 for outlet port G3/8
	29226	FLAT SEAL in PTCFE (Kel-F®) 16x9,2x2

Product Number	SP Number	Long designation
213328	15969	PAINEMITTARI 0- 200/315 Bar Ø 50mm Pystysuora sisäänmeno M10x1 Messinki-Cr - Runko S.Teräs
	16000	PRESSURE GAUGE (-1) - 1,5 Bar Ø 50mm Lateral Entr
	17141	FLAT SEAL in PTCFE 14,5x10x2 for outlet port G3/8

Product Number	SP Number	Long designation
122887	17141	FLAT SEAL in PTFCE 14,5x10x2 for outlet port G3/8
	17203	FLAT SEAL in PTFCE 18x11,8x2 for inlet connection
	29053	FLAT SEAL in PA 6.6 20x12x2
	167800	KIT of Seals flat PA 6.6 for manometer M10x1 (2 s
122888	17141	FLAT SEAL in PTFCE 14,5x10x2 for outlet port G3/8
	17203	FLAT SEAL in PTFCE 18x11,8x2 for inlet connection
	29053	FLAT SEAL in PA 6.6 20x12x2
	167800	KIT of Seals flat PA 6.6 for manometer M10x1 (2 s
122889	15969	PAINEMITTARI 0- 200/315 Bar Ø 50mm Pystysuora sisäänmeno M10x1 Messinki-Cr - Runko S.Teräs
	16008	Painemittari 0+0,1+0,16 BAR Ø50 Pystysuora liitäntä. M10x1
	17141	FLAT SEAL in PTFCE 14,5x10x2 for outlet port G3/8
	17203	FLAT SEAL in PTFCE 18x11,8x2 for inlet connection
122879	15969	PAINEMITTARI 0- 200/315 Bar Ø 50mm Pystysuora sisäänmeno M10x1 Messinki-Cr - Runko S.Teräs
	16008	Painemittari 0+0,1+0,16 BAR Ø50 Pystysuora liitäntä. M10x1
	17141	FLAT SEAL in PTFCE 14,5x10x2 for outlet port G3/8
	29053	FLAT SEAL in PA 6.6 20x12x2
122880	15969	PAINEMITTARI 0- 200/315 Bar Ø 50mm Pystysuora sisäänmeno M10x1 Messinki-Cr - Runko S.Teräs
	16008	Painemittari 0+0,1+0,16 BAR Ø50 Pystysuora liitäntä. M10x1
	17141	FLAT SEAL in PTFCE 14,5x10x2 for outlet port G3/8
	29053	FLAT SEAL in PA 6.6 20x12x2
122881	15969	PAINEMITTARI 0- 200/315 Bar Ø 50mm Pystysuora sisäänmeno M10x1 Messinki-Cr - Runko S.Teräs
	16008	Painemittari 0+0,1+0,16 BAR Ø50 Pystysuora liitäntä. M10x1
	17141	FLAT SEAL in PTFCE 14,5x10x2 for outlet port G3/8
	29053	FLAT SEAL in PA 6.6 20x12x2
122899	15969	PAINEMITTARI 0- 200/315 Bar Ø 50mm Pystysuora sisäänmeno M10x1 Messinki-Cr - Runko S.Teräs
	15999	Painemittari -1+3+5 Bar Ø50 Pystysuora liitäntä. M10x1
	17141	FLAT SEAL in PTFCE 14,5x10x2 for outlet port G3/8
	29053	FLAT SEAL in PA 6.6 20x12x2
	29186	FLAT SEAL PA 6-6 14x9x2
122900	15969	PAINEMITTARI 0- 200/315 Bar Ø 50mm Pystysuora sisäänmeno M10x1 Messinki-Cr - Runko S.Teräs
	15999	Painemittari -1+3+5 Bar Ø50 Pystysuora liitäntä. M10x1

Product Number	SP Number	Long designation
122900	17130	O-RING in EPDM R9 10,5x2,7 mm EP851 for inlet connection brass - type C/B4 & E(NF)
	17141	FLAT SEAL in PTFCE 14,5x10x2 for outlet port G3/8
	29053	FLAT SEAL in PA 6.6 20x12x2
	29186	FLAT SEAL PA 6-6 14x9x2
122901	15969	PAINEMITTARI 0- 200/315 Bar Ø 50mm Pystysuora sisäänmeno M10x1 Messinki-Cr - Runko S.Teräs
	15999	Painemittari -1+3+5 Bar Ø50 Pystysuora liitäntä. M10x1
	17141	FLAT SEAL in PTFCE 14,5x10x2 for outlet port G3/8
	29053	FLAT SEAL in PA 6.6 20x12x2
122895	29186	FLAT SEAL PA 6-6 14x9x2
	15969	PAINEMITTARI 0- 200/315 Bar Ø 50mm Pystysuora sisäänmeno M10x1 Messinki-Cr - Runko S.Teräs
	17141	FLAT SEAL in PTFCE 14,5x10x2 for outlet port G3/8
	29053	FLAT SEAL in PA 6.6 20x12x2
122896	29187	PACKNING 18X11,8X2 MM NYLON (Bag of 10)
	167800	KIT of Seals flat PA 6.6 for manometer M10x1 (2 s
	17141	FLAT SEAL in PTFCE 14,5x10x2 for outlet port G3/8
	18552	PRESSURE GAUGE 0-25 Bar Ø 50mm Vertical Entry G1/4
122897	29053	FLAT SEAL in PA 6.6 20x12x2
	29187	PACKNING 18X11,8X2 MM NYLON (Bag of 10)
	167800	KIT of Seals flat PA 6.6 for manometer M10x1 (2 s
	17141	FLAT SEAL in PTFCE 14,5x10x2 for outlet port G3/8
122891	18547	PRESSURE GAUGE 0-100 Bar Ø 50mm Lateral Entry G1/
	29053	FLAT SEAL in PA 6.6 20x12x2
	29187	PACKNING 18X11,8X2 MM NYLON (Bag of 10)
	167800	KIT of Seals flat PA 6.6 for manometer M10x1 (2 s
	15979	Painemittari 0-200+315 Bar Ø 50mm pystysuora M10x1 Ruostumaton teräs
122893	16015	PRESSURE GAUGE (-1) - 15 Bar Ø 50mm Lateral Entry
	17141	FLAT SEAL in PTFCE 14,5x10x2 for outlet port G3/8
	29053	FLAT SEAL in PA 6.6 20x12x2
	29226	FLAT SEAL in PTFCE (Kel-F®) 16x9,2x2
122893	15979	Painemittari 0-200+315 Bar Ø 50mm pystysuora M10x1 Ruostumaton teräs
	16015	PRESSURE GAUGE (-1) - 15 Bar Ø 50mm Lateral Entry

Product Number	SP Number	Long designation
122893	17141	FLAT SEAL in PTCFE 14,5x10x2 for outlet port G3/8
	29053	FLAT SEAL in PA 6.6 20x12x2
	29226	FLAT SEAL in PTCFE (Kel-F®) 16x9,2x2
122883	15969	PAINEMITTARI 0- 200/315 Bar Ø 50mm Pystysuora sisäänmeno M10x1 Messinki-Cr - Runko S.Teräs
	16008	Painemittari 0+0,1+0,16 BAR Ø50 Pystysuora liitäntä. M10x1
	17141	FLAT SEAL in PTCFE 14,5x10x2 for outlet port G3/8
122884	15969	PAINEMITTARI 0- 200/315 Bar Ø 50mm Pystysuora sisäänmeno M10x1 Messinki-Cr - Runko S.Teräs
	17130	O-RING in EPDM R9 10,5x2,7 mm EP851 for inlet connection brass - type C/B4 & E(NF)
	17141	FLAT SEAL in PTCFE 14,5x10x2 for outlet port G3/8
122885	15969	PAINEMITTARI 0- 200/315 Bar Ø 50mm Pystysuora sisäänmeno M10x1 Messinki-Cr - Runko S.Teräs
	17141	FLAT SEAL in PTCFE 14,5x10x2 for outlet port G3/8
193402	15979	Painemittari 0-200+315 Bar Ø 50mm pystysuora M10x1 Ruostumaton teräs
	16021	Painemittari 0+70+100 Bar Ø 50mm Pystysuora M10x1 Ruostumaton teräs M10x1
	17203	FLAT SEAL in PTCFE 18x11,8x2 for inlet connection
	29053	FLAT SEAL in PA 6.6 20x12x2
193400	17141	FLAT SEAL in PTCFE 14,5x10x2 for outlet port G3/8
	18552	PRESSURE GAUGE 0-25 Bar Ø 50mm Vertical Entry G1/4
	29053	FLAT SEAL in PA 6.6 20x12x2
	167800	KIT of Seals flat PA 6.6 for manometer M10x1 (2 s
193405	17141	FLAT SEAL in PTCFE 14,5x10x2 for outlet port G3/8
	18547	PRESSURE GAUGE 0-100 Bar Ø 50mm Lateral Entry G1/
	29053	FLAT SEAL in PA 6.6 20x12x2
	29186	FLAT SEAL PA 6-6 14x9x2
	167800	KIT of Seals flat PA 6.6 for manometer M10x1 (2 s
193404	15979	Painemittari 0-200+315 Bar Ø 50mm pystysuora M10x1 Ruostumaton teräs
	16015	PRESSURE GAUGE (-) - 15 Bar Ø 50mm Lateral Entry
	17141	FLAT SEAL in PTCFE 14,5x10x2 for outlet port G3/8
	29053	FLAT SEAL in PA 6.6 20x12x2
	29187	PACKNING 18X11,8X2 MM NYLON (Bag of 10)
192195	15979	Painemittari 0-200+315 Bar Ø 50mm pystysuora M10x1 Ruostumaton teräs
	16019	PRESSURE GAUGE (-) - 1,5 Bar Ø 50mm Lateral Entr

Product Number	SP Number	Long designation
192195	17141	FLAT SEAL in PTCFE 14,5x10x2 for outlet port G3/8
	29053	FLAT SEAL in PA 6.6 20x12x2
	29226	FLAT SEAL in PTCFE (Kel-F®) 16x9,2x2
193401	15969	PAINEMITTARI 0- 200/315 Bar Ø 50mm Pystysuora sisäänmeno M10x1 Messinki-Cr - Runko S.Teräs
	16000	PRESSURE GAUGE (-) - 1,5 Bar Ø 50mm Lateral Entr
	17141	FLAT SEAL in PTCFE 14,5x10x2 for outlet port G3/8