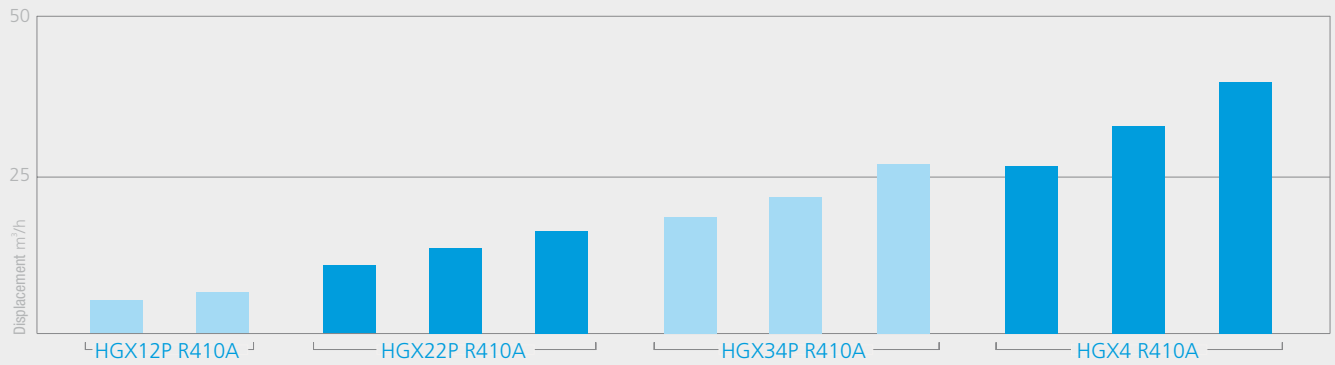


Bock HG Compressors - R410A

Semi-hermetic Compressors for the Refrigerant R410A

The current program

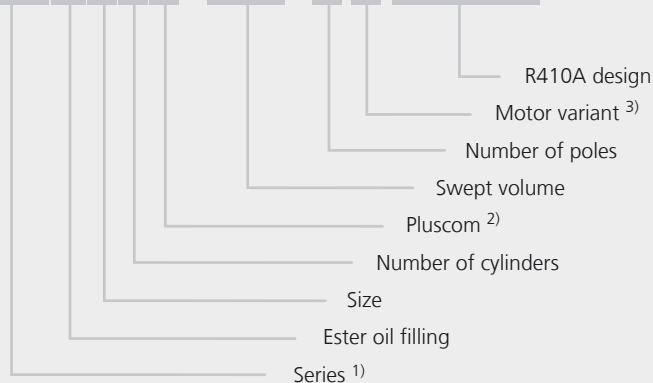
...4 model sizes with 11 capacity stages from 5,4 to 40,5 m³/h (50 Hz)



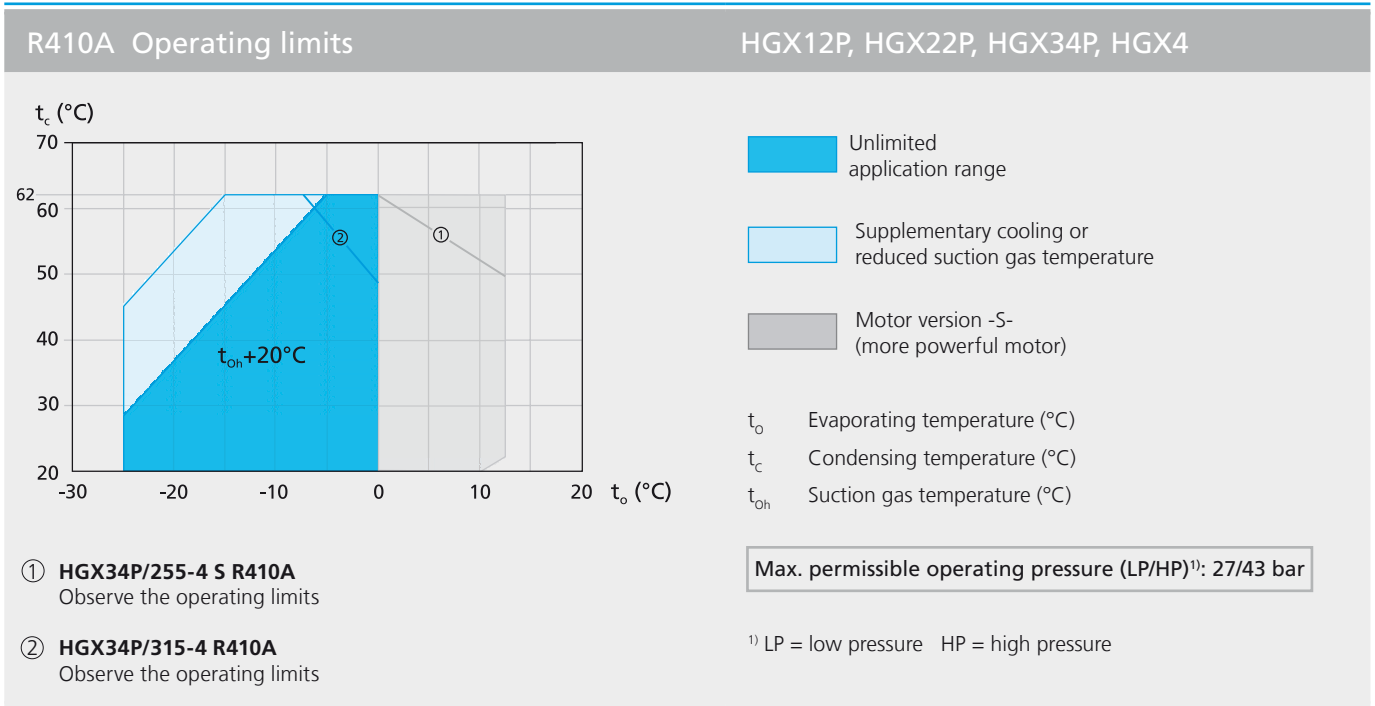
Available models	Displacement 50 Hz (1.450 rpm)
HGX12P/60-4 R410A HGX12P/60-4 S R410A	5,40 m ³ /h
HGX12P/75-4 R410A HGX12P/75-4 S R410A	6,70 m ³ /h
HGX22P/125-4 R410A HGX22P/125-4 S R410A	11,10 m ³ /h
HGX22P/160-4 S R410A	13,70 m ³ /h
HGX22P/190-4 R410A HGX22P/190-4 S R410A	16,50 m ³ /h
HGX34P/215-4 R410A HGX34P/215-4 S R410A	18,80 m ³ /h
HGX34P/255-4 S R410A	22,10 m ³ /h
HGX34P/315-4 S R410A	27,30 m ³ /h
HGX4/310-4 R410A HGX4/310-4 S R410A	27,10 m ³ /h
HGX4/385-4 S R410A	33,50 m³/h
HGX4/465-4 R410A HGX4/465-4 S R410A	40,50 m ³ /h

Type key - compressor for R410A

HGX34P / 215 - 4 S R410A



- ¹⁾ HG = Compressor Hermetic Gas-cooled (suction gas-cooled)
- ²⁾ = Additional declaration for Pluscom compressors
- ³⁾ S = More powerful motor e.g. air-conditioning applications



R410A notes

Operating limits

Compressor operation is possible within the limits shown on the application diagrams. Please note the coloured areas. Compressor application limits should not be chosen for design purposes or continuous operation.

Restrictions to the operating limits may occur when using the Bock EFC (Electronic Frequency Control). More explanations see sample calculation in brochure "Bock Semi-hermetic Compressors Electronic Controls".

Performance data


The performance data for R410A are based on 20K suction gas superheat without liquid subcooling, at **50 Hz power supply frequency**.


These are **preliminary values** as no uniform reference data are available. Besides which the influence of the oil part on refrigeration performance is largely unknown. **Variations cannot be excluded.**

Conversion factor for 60 Hz = 1.2

R410A		Performance data										50 Hz	
Type	Cond. temp. °C		Cooling capacity \dot{Q}_o [W]						Power consumption P_e [kW]				
			Evaporating temperature °C										
			12,5	10	7,5	5	0	-5	-10	-15	-20	-25	
HGX4/310-4 R410A HGX4/310-4 S R410A	30	Q	53590	49284	45239	41446	34575	28591	23417	18973	15182	11965	
		P	7,34	7,61	7,79	7,89	7,89	7,67	7,27	6,77	6,22	5,68	
	40	Q	46337	42573	39042	35735	29753	24547	20039	16152	12805	9921	
		P	9,86	9,85	9,77	9,64	9,21	8,63	7,96	7,25	6,57	5,97	
	50	Q	39028	35813	32804	29990	24912	20498	16672	13354	10466		
		P	12,00	11,75	11,45	11,11	10,33	9,47	8,59	7,75	7,01		
HGX4/385-4 S R410A	30	Q	65359	60132	55224	50622	42290	35041	28780	23411	18839	14969	
		P	9,73	9,98	10,12	10,17	10,04	9,65	9,08	8,40	7,70	7,04	
	40	Q	56324	51790	47539	43560	36368	30118	24716	20064	16069	12634	
		P	13,14	13,04	12,86	12,62	11,96	11,13	10,22	9,30	8,44	7,71	
	50	Q	47370	43531	39940	36585	30536	25289	20748	16817	13402		
		P	15,98	15,58	15,13	14,63	13,54	12,38	11,22	10,15	9,22		
HGX4/465-4 R410A HGX4/465-4 S R410A	30	Q	80909	74450	68382	62689	52367	43360	35547	28804	23010	18041	
		P	12,02	12,43	12,69	12,82	12,74	12,29	11,56	10,65	9,66	8,68	
	40	Q	70775	65079	59733	54719	45632	37694	30783	24777	19553	14989	
		P	15,69	15,69	15,57	15,36	14,67	13,72	12,61	11,43	10,28	9,27	
	50	Q	60393	55475	50864	46546	38722	31883	25905	20664	16040		
		P	18,85	18,51	18,08	17,59	16,42	15,11	13,75	12,44	11,27		

Relating to 20 °C suction gas temperature without liquid subcooling

 Supplementary cooling or reduced suction gas temperature

 Motor version -S- (more powerful motor)

R410A Type	Number of cylinders	Displacement 50 / 60 Hz (1450 / 1740 rpm) m³/h	Electrical data				Weight kg	Connections ⑤		Oil charge Ltr.
			Vol- tage ①	Max. working current ②	Max. power consumption ②	Starting current (rotor locked) ②		Discharge line DV	Suction line SV	
				A Δ / Y	kW	A Δ / Y		mm inch	mm inch	
HGX12P/60-4 R410A HGX12P/60-4 S R410A	2	5,40 / 6,40	③	8,8 / 5,1 9,5 / 5,5	3,1 3,2	40 / 23 43 / 25	48 50	12 1/2	16 5/8	0,8
HGX12P/75-4 R410A HGX12P/75-4 S R410A	2	6,70 / 8,10	③	9,9 / 5,7 11,1 / 6,4	3,3 3,7	43 / 25 45 / 26	49	12 1/2	16 5/8	0,8
HGX22P/125-4 R410A HGX22P/125-4 S R410A	2	11,10 / 13,30	③	15,6 / 9,0 19,2 / 11,1	5,3 6,6	67 / 40 121 / 70	76 78	16 5/8	22 7/8	1,0
HGX22P/160-4 S R410A	2	13,70 / 16,40	③	23,7 / 13,7	8,1	121 / 70	82	16 5/8	22 7/8	1,0
HGX22P/190-4 R410A HGX22P/190-4 S R410A	2	16,50 / 19,80	③	24,6 / 14,2 29,3 / 16,9	8,4 9,7	121 / 70 134 / 77	81 84	16 5/8	22 7/8	1,0
HGX34P/215-4 R410A HGX34P/215-4 S R410A	4	18,80 / 22,60	③	25,9 / 15,0 29,3 / 16,9	8,9 9,7	111 / 64 132 / 76	95 98	16 5/8	22 7/8	1,3
HGX34P/255-4 S R410A	4	22,10 / 26,60	③	29,9 / 17,3	9,9	132 / 76	97	16 5/8	28 1 1/8	1,3
HGX34P/315-4 R410A	4	27,30 / 32,80	③	30,5 / 17,6	10,1	132 / 76	97	22 7/8	28 1 1/8	1,3
				* PW 1+2		*PW1 / PW 1+2				
HGX4/310-4 R410A HGX4/310-4 S R410A	4	27,10 / 32,50	④	20,8 30,6	12,3 17,9	57 / 75 82 / 107	149 152	22 7/8	28 1 1/8	2,7
HGX4/385-4 S R410A	4	33,50 / 40,20	④	31,6	18,5	82 / 107	151	22 7/8	28 1 1/8	2,7
HGX4/465-4 R410A HGX4/465-4 S R410A	4	40,50 / 48,60	④	31,9 38,2	18,7 22,2	82 / 107 107 / 140	151 154	28 1 1/8	35 1 3/8	2,7

* PW = Part Winding, motors for part winding start 1 = 1. part winding 2 = 2. part winding

Explanations:

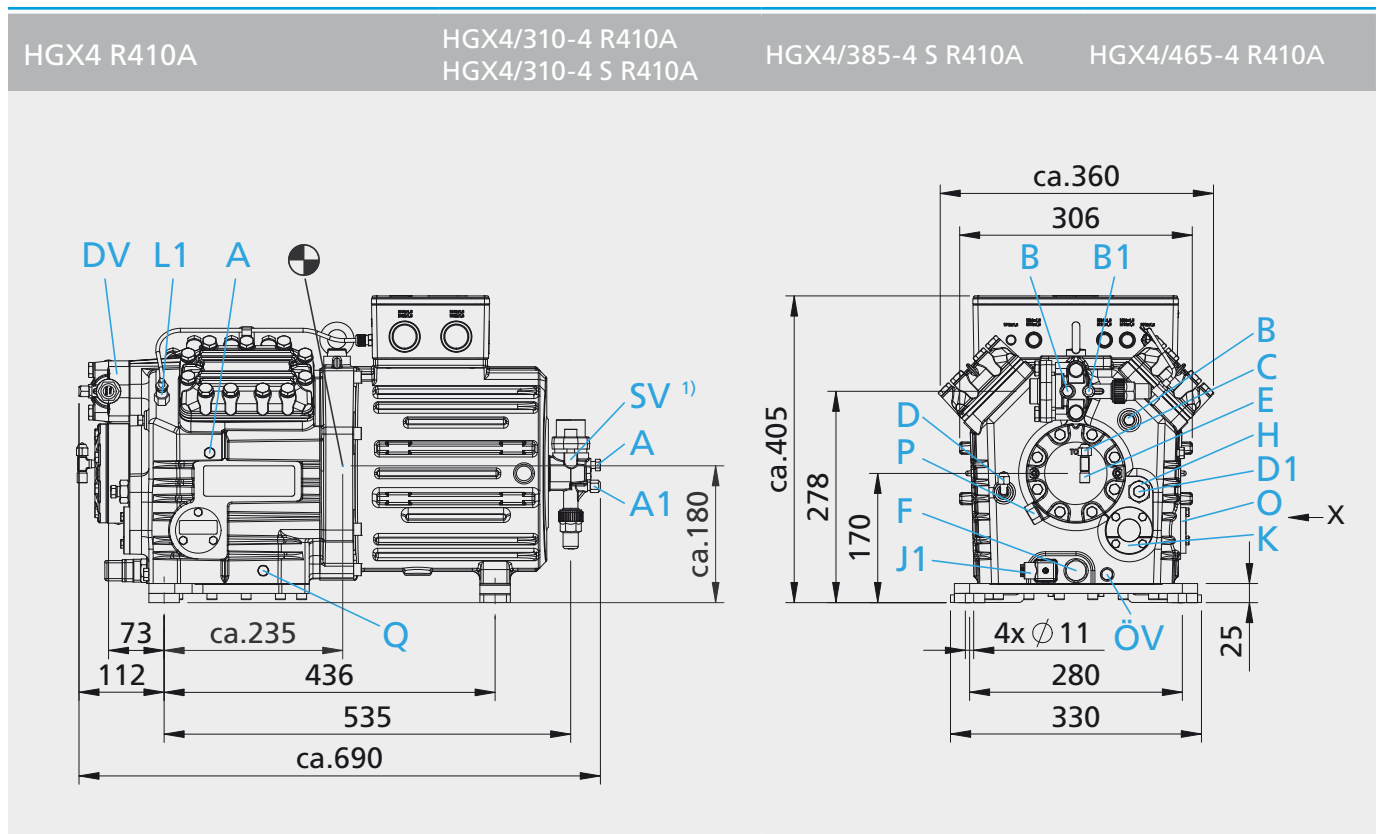
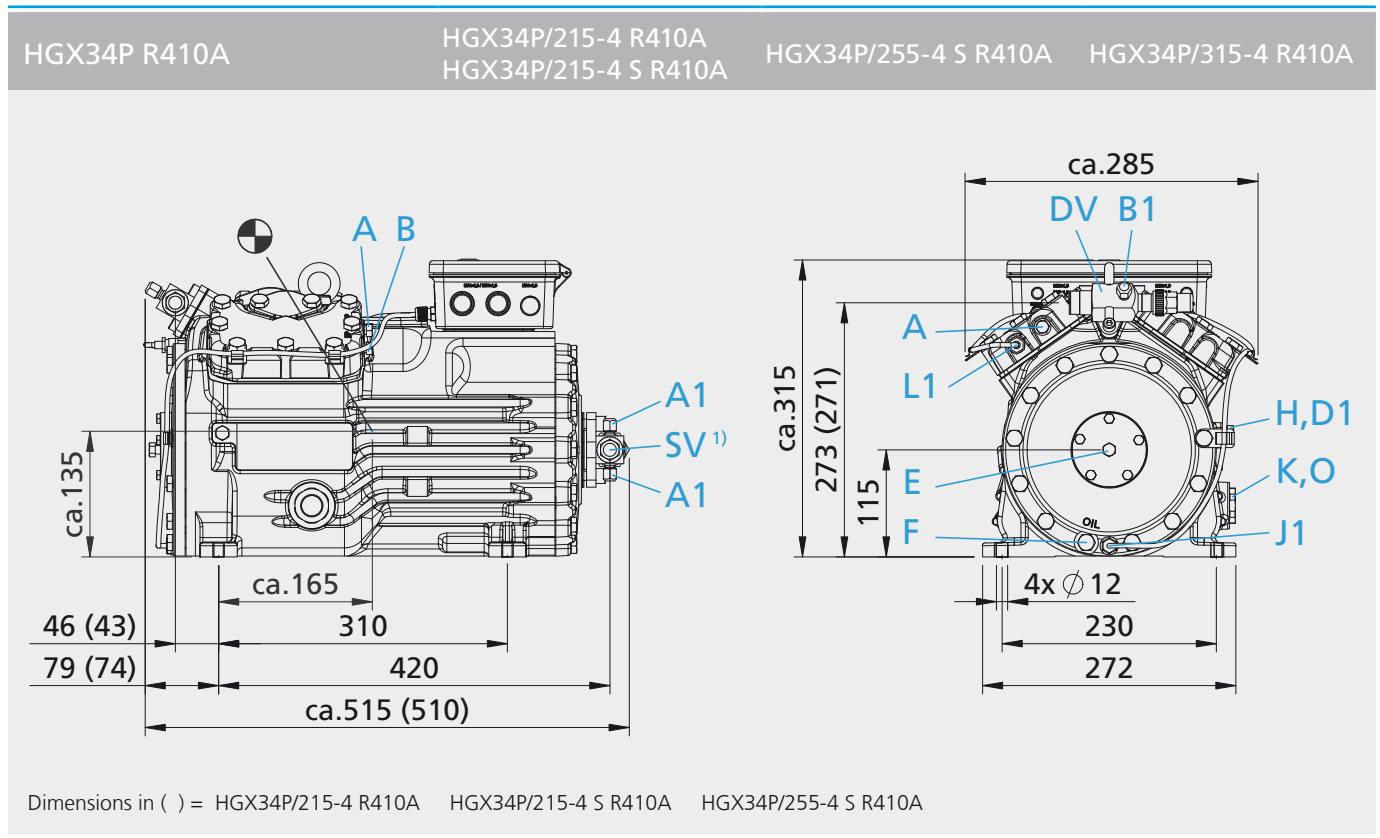
- ① Tolerance (± 10%) relates to the mean value of the voltage range. Other voltages and current types on request.
- ② - The specifications for max. power consumption apply for 50 Hz operation. For 60 Hz operation, the specifications have to be multiplied by the factor 1.2.
The max. working current remains unchanged.
- Take account of the max. operating current / max. power consumption when designing contactors, leads and fuses.
Switches: service category AC3
- ③ 220-240 V Δ / 380-420 V Y - 3 - 50 Hz
265-290 V Δ / 440-480 V Y - 3 - 60 Hz
- ④ 380-420 V Y/YY - 3 - 50 Hz PW
440-480 V Y/YY - 3 - 60 Hz PW
PW = Part Winding, motors for part winding start
(no start unloaders required)
- Winding ratio: 66% / 33%
- Designs for Y/Δ on request
- ⑤ For soldering connections

Oil sump heater 110-240 V - 1 - 50/60 Hz

HGX12P, HGX22P, HGX34P: 50-120 W
PTC heater, self-regulating, installation in housing bore

Oil sump heater 230 V - 1 - 50/60 Hz

HGX4: 80 W
Permanently set version, installation in immersion sleeve



¹⁾ SV 90° rotatable
 Centre of gravity

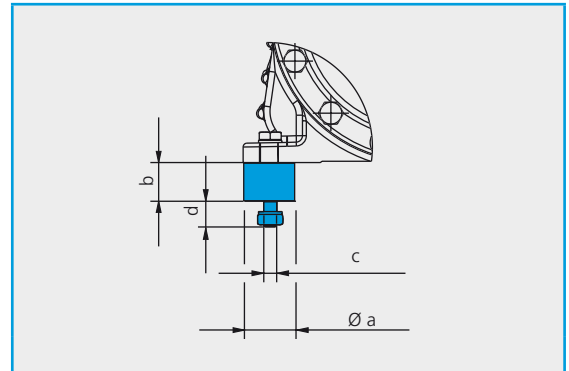
Dimensions in mm

Connections		HGX12P R410A	HGX22P R410A	HGX34P R410A	HGX4 R410A
SV	Suction line	please refer to Technical data page 9			
DV	Discharge line				
A	Connection suction side, not lockable	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF
A1	Connection suction side, lockable	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF
B	Connection discharge side, not lockable	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF
B1	Connection discharge side, lockable	7/16" UNF	7/16" UNF	7/16" UNF	7/16" UNF
C	Connection oil pressure safety switch OIL	-	-	-	7/16" UNF
D	Connection oil pressure safety switch LP	-	-	-	7/16" UNF
D1	Connection oil return from oil separator	1/4" NPTF	1/4" NPTF	1/4" NPTF	1/4" NPTF
E	Connection oil pressure gauge	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF
F	Oil drain	M 8	M 10	M 10	M 22 x 1,5
H	Oil charge plug	1/4" NPTF	1/4" NPTF	1/4" NPTF	M 22 x 1,5
J1	Oil sump heater	Ø 15 mm	Ø 15 mm	Ø 15 mm	M 22 x 1,5
K	Sight glass	1 1/8" - 18 UNEF	1 1/8" - 18 UNEF	1 1/8" - 18 UNEF	4 hole M 6
L1	Thermal protection thermostat	1/8" NPTF	1/8" NPTF	1/8" NPTF	1/8" NPTF
O	Connection oil level regulator	1 1/8" - 18 UNEF	1 1/8" - 18 UNEF	1 1/8" - 18 UNEF	①
ÖV	Connection oil service valve	-	-	-	1/4" NPTF
P	Connection oil differential pressure sensor	-	-	-	M 20 x 1,5
Q	Connection oil temperature sensor	-	-	-	1/8" NPTF

① Dimensions for view X see page 13

Dimensions for anti-vibration pad

Type	Ø a mm	b mm	c mm	d mm
HGX12P R410A	30	30	M8	20
HGX22P R410A	40	30	M10	20
HGX34P R410A	40	30	M10	20
HGX4 R410A	40	30	M10	10

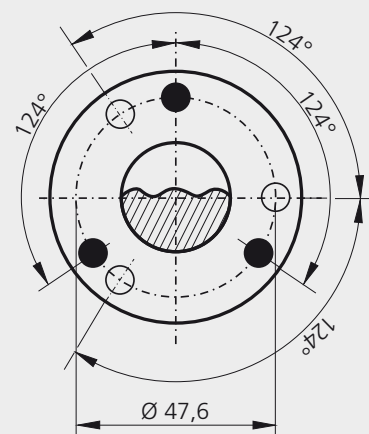


View X

Possibility to connect to oil level regulator

HGX4... R410A

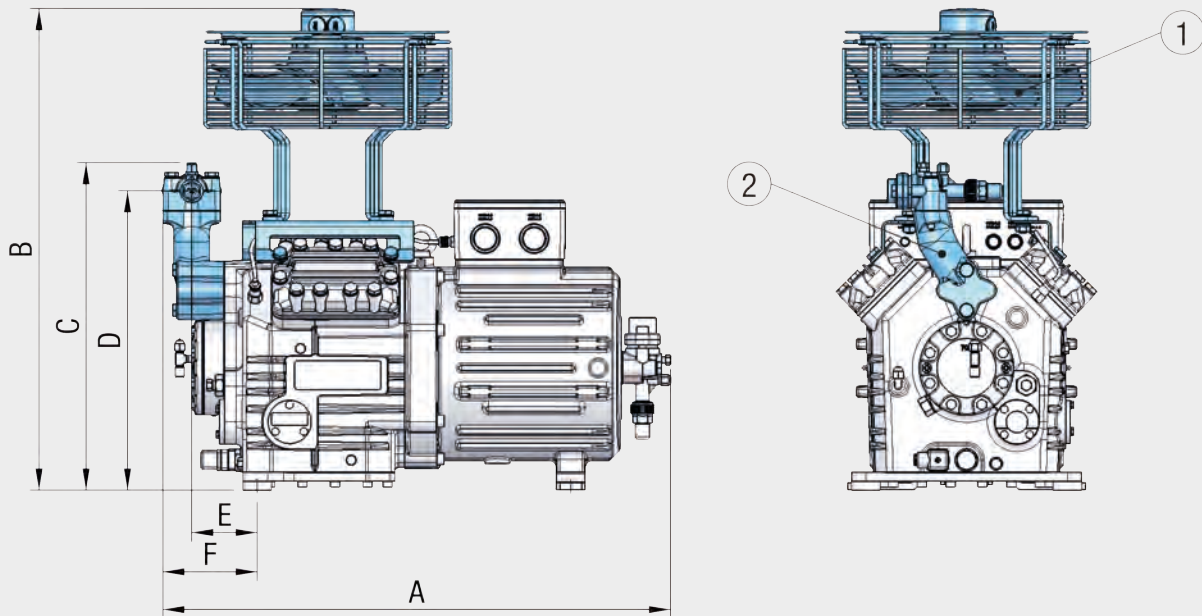
- Three-hole connection for oil level regulator make ESK, AC+R, CARLY (3x M6, 10 deep)
- Three-hole connection for oil level regulator make TRAXOIL (3 x M6 x 10 deep)



Dimensions in mm

Dimensions with accessories

HGX4 R410A



- ① Additional fan ② Intermediate adapter for discharge line valve

Type	A mm	B mm	C mm	D mm	E mm	F mm
HGX4 R410A	ca. 705	ca. 680	ca. 455	416	91	131