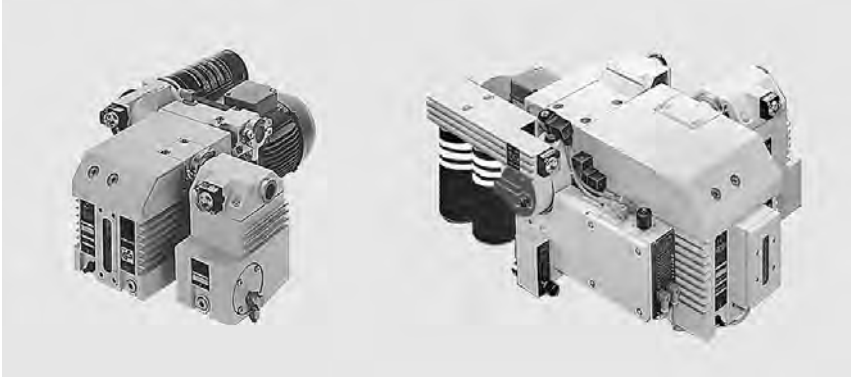
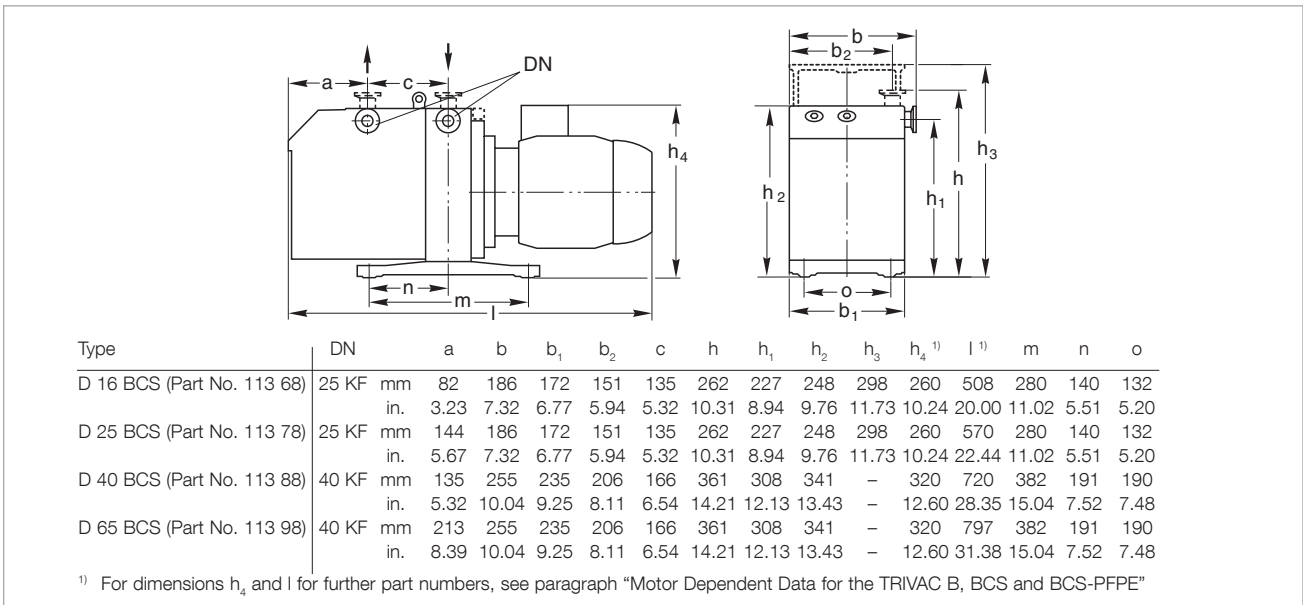


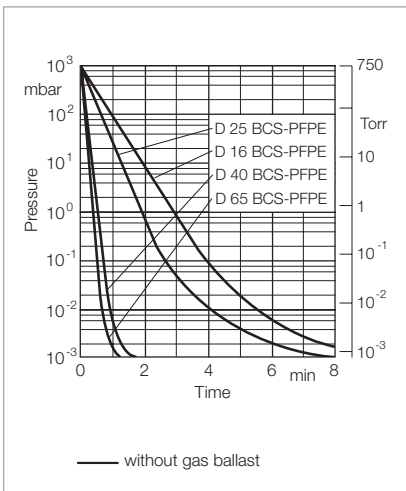
TRIVAC D 16 BCS to D 65 BCS



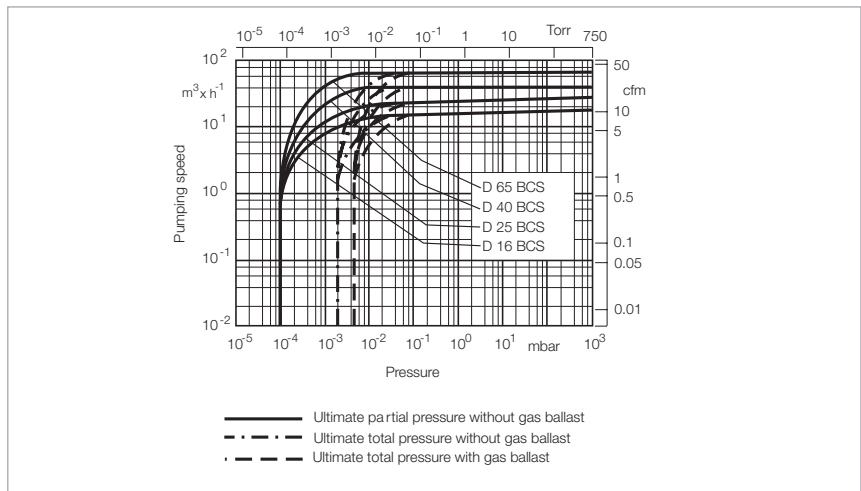
TRIVAC D 25 BCS with ARS and CFS (left)
and TRIVAC D 65 BCS with CFS, ARS, IGS, LSS – TRIVAC SYSTEM (right)



Dimensional drawing for the TRIVAC D 16 to D 65 BCS



Pump-down characteristics of a 100 l vessel at 50 Hz



Pumping speed characteristics at 50 Hz (60 Hz curves at the end of the chapter)

Technical Data

TRIVAC D 16 BCS

TRIVAC D 25 BCS

two-stage

two-stage

50 Hz

60 Hz

50 Hz

60 Hz

		50 Hz	60 Hz	50 Hz	60 Hz
Nominal pumping speed ¹⁾	m ³ /h (cfm)	18.9 (11.1)	22.7 (13.4)	29.5 (17.4)	35.4 (20.9)
Pumping speed ¹⁾	m ³ /h (cfm)	16.5 (9.7)	19.8 (11.7)	25.7 (15.1)	30.8 (18.2)
Ultimate partial pressure without gas ballast ¹⁾	mbar (Torr)	10 ⁻⁴ (0.75 x 10 ⁻⁴)	10 ⁻⁴ (0.75 x 10 ⁻⁴)	10 ⁻⁴ (0.75 x 10 ⁻⁴)	10 ⁻⁴ (0.75 x 10 ⁻⁴)
Ultimate total pressure without gas ballast ¹⁾	mbar (Torr)	< 2.5 x 10 ⁻³ (< 1.9 x 10 ⁻³)	< 2.5 x 10 ⁻³ (< 1.9 x 10 ⁻³)	< 2.5 x 10 ⁻³ (< 1.9 x 10 ⁻³)	< 2.5 x 10 ⁻³ (< 1.9 x 10 ⁻³)
Ultimate total pressure with gas ballast ¹⁾	mbar (Torr)	< 5 x 10 ⁻³ (< 3.8 x 10 ⁻³)	< 5 x 10 ⁻³ (< 3.8 x 10 ⁻³)	< 5 x 10 ⁻³ (< 3.8 x 10 ⁻³)	< 5 x 10 ⁻³ (< 3.8 x 10 ⁻³)
Water vapor tolerance ¹⁾	mbar (Torr)	25 (18.8)	25 (18.8)	25 (18.8)	25 (18.8)
Water vapor capacity	g/h (lbs/h)	305 (0.672)	370 (0.816)	476 (1.049)	570 (1.257)
Oil filling, min. / max.	l (qt)	0.45 / 1.2 (0.5 / 1.1)	0.45 / 1.2 (0.5 / 1.1)	0.6 / 1.4 (0.6 / 1.5)	0.6 / 1.4 (0.6 / 1.5)
Noise level ²⁾ to DIN 45 635, without / with gas ballast	dB(A)	54 / 56	54 / 56	54 / 56	54 / 56
Admissible ambient temperature	°C (°F)	+12 to +40 (+54 to +104)	+12 to +40 (+54 to +104)	+12 to +40 (+54 to +104)	+12 to +40 (+54 to +104)
Motor rating ²⁾	W (HP)	750 (1.0)	750 (1.0)	750 (1.0)	750 (1.0)
Nominal speed	rpm	1425	1730	1425	1730
Type of protection	IP	3)	3)	3)	3)
Weight ²⁾	kg (lbs)	28 (61.7)	28 (61.7)	32.3 (71.2)	32.3 (71.2)
Connections, Intake and Exhaust	DN	25 KF	25 KF	25 KF	25 KF

¹⁾ To DIN 28 400 and following numbers

²⁾ Motor rating and noise levels for the pumps with AC motor 50 Hz.

Any data that deviate from the above for pumps with other motors, and other motor-dependent data are given in chapter "Products", paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE".

³⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE".

Technical Data

TRIVAC D 40 BCS

TRIVAC D 65 BCS

two-stage

two-stage

50 Hz

60 Hz

50 Hz

60 Hz

		50 Hz	60 Hz	50 Hz	60 Hz
Nominal pumping speed ¹⁾	m ³ /h (cfm)	46 (27)	55 (32.5)	75 (44)	90 (53)
Pumping speed ¹⁾	m ³ /h (cfm)	40 (24)	48 (28)	65 (38)	78 (46)
Ultimate partial pressure without gas ballast ¹⁾	mbar (Torr)	10 ⁻⁴ (0.75 x 10 ⁻⁴)	10 ⁻⁴ (0.75 x 10 ⁻⁴)	10 ⁻⁴ (0.75 x 10 ⁻⁴)	10 ⁻⁴ (0.75 x 10 ⁻⁴)
Ultimate total pressure without gas ballast ¹⁾	mbar (Torr)	< 2 x 10 ⁻³ (< 1.5 x 10 ⁻³)	< 2 x 10 ⁻³ (< 1.5 x 10 ⁻³)	< 2 x 10 ⁻³ (< 1.5 x 10 ⁻³)	< 2 x 10 ⁻³ (< 1.5 x 10 ⁻³)
Ultimate total pressure with gas ballast ¹⁾	mbar (Torr)	< 5 x 10 ⁻³ (< 3.8 x 10 ⁻³)	< 5 x 10 ⁻³ (< 3.8 x 10 ⁻³)	< 5 x 10 ⁻³ (< 3.8 x 10 ⁻³)	< 5 x 10 ⁻³ (< 3.8 x 10 ⁻³)
Water vapor tolerance ¹⁾	mbar (Torr)	40 (30)	40 (30)	40 (30)	40 (30)
Water vapor capacity	g/h (lbs/h)	1184 (2.610)	1420 (3.131)	1925 (4.244)	2310 (5.093)
Oil filling, min. / max.	l (qt)	1.7 / 2.6 (1.8 / 2.7)	1.7 / 2.6 (1.8 / 2.7)	2.0 / 3.3 (2.1 / 3.5)	2.0 / 3.3 (2.1 / 3.5)
Noise level ²⁾ to DIN 45 635, without / with gas ballast	dB(A)	57 / 59	57 / 59	57 / 59	57 / 59
Admissible ambient temperature	°C (°F)	+12 to +40 (+54 to +104)	+12 to +40 (+54 to +104)	+12 to +40 (+54 to +104)	+12 to +40 (+54 to +104)
Motor rating ²⁾	W (HP)	2200 (3.0)	2200 (3.0)	2200 (3.0)	2200 (3.0)
Nominal speed	rpm	1460	1760	1460	1760
Type of protection	IP	³⁾	³⁾	³⁾	³⁾
Weight ²⁾	kg (lbs)	75.3 (166)	75.3 (166)	84.5 (186.3)	84.5 (186.3)
Connections, Intake and Exhaust	DN	40 KF	40 KF	40 KF	40 KF

¹⁾ To DIN 28 400 and following numbers

²⁾ Motor rating and noise levels for the pumps with AC motor 50 Hz.

Any data that deviate from the above for pumps with other motors, and other motor-dependent data are given in chapter "Products", paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE".

³⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE".

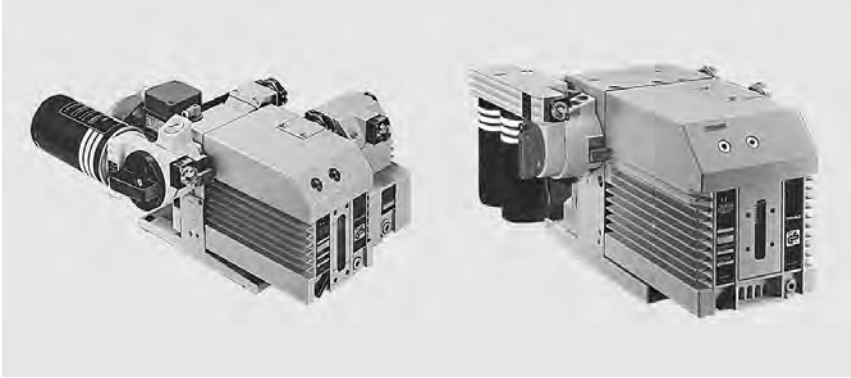
Ordering Information

TRIVAC
D 16 BCS
two-stageTRIVAC
D 25 BCS
two-stageTRIVAC
D 40 BCS
two-stageTRIVAC
D 65 BCS
two-stage

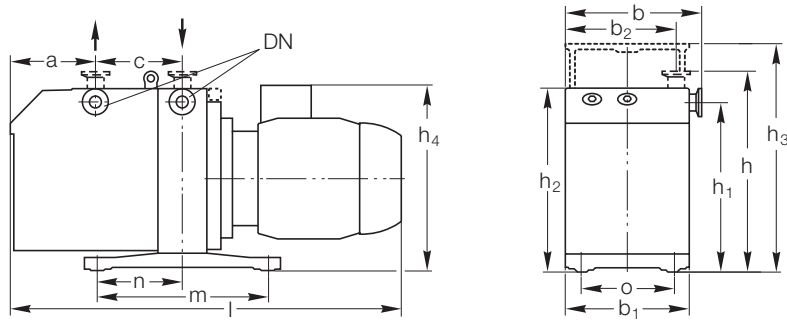
	Part No.	Part No.	Part No.	Part No.
TRIVAC B with 3-phase motor 200 – 240 V (200 V IE3) / 380 – 400 V (380 – 400 V IE 3), 50 Hz / 200 – 240 (208 – 240 V IE3) / 380 – 480 V (416 – 480 V IE3), 60 Hz	113 68	113 78	-	-
200 – 240 V (200 V IE3) / 380 – 400 V (380 – 400 V IE 3), 50 Hz / 200 – 240 (208 – 240 V IE3) / 400 – 480 V (416 – 480 V IE3), 60 Hz	-	-	113 88	113 98
180 – 220 V (200 V IE3 Japan) / 311 – 380 V (346 V IE3 Japan), 50 Hz / 200 – 240 V (220 V IE3 Japan) / 342 – 418 V (380 V IE3 Japan), 60 Hz	-	-	-	113 98J
Accessories				
Roots pump adaptor	-	-	168 30	168 30
Exhaust filter with lubricant return ARS 16-25	189 56	189 56	-	-
ARS 40-65	-	-	189 57	189 57
Condensate separator AK 16-25	188 11	188 11	-	-
AK 40-65	-	-	188 16	188 16
Chemical filter with safety blocking valve CFS 16-25	101 76	101 76	-	-
CFS 40-65	-	-	101 77	101 77
Inert gas system IGS 16-25	161 76	161 76	-	-
IGS 40-65	-	-	161 68V	161 68V
Limit switch system LSS 16-25	161 06	161 06	-	-
LSS 40-65	-	-	161 07	161 07
Spare Parts				
Inner body	E 200 39 762	E 200 39 764	E 200 39 758	E 200 39 760
Major maintenance kit for LVO 100 (without oil)	EK110002646	EK110002647	EK110002641	EK110002642
Minor maintenance kit for LVO 100 (without oil)	EK110002649	EK110002648	EK110002624	EK110002624
Shaft sealing replacement kit	EK110002650	EK110002650	EK110002643	EK110002643
Seal kit	197 31	197 31	197 32	197 32

For further accessories see section "Accessories for TRIVAC E, B and BCS".

TRIVAC D 16 BCS-PFPE to D 65 BCS-PFPE



TRIVAC D 25 BCS-PFPE with CFS 16-25 and ARS 16-25 (left) and
TRIVAC D 65 BCS-PFPE with CFS 40-65 (right)



Type	DN	a	b	b ₁	b ₂	c	h	h ₁	h ₂	h ₃	h ₄	l	m	n	o	
D 16 BCS-PFPE (Part No. 113 69)	25 KF	mm	82	190	175	150	135	263	226	250	298	260	508	280	140	132
		in.	3.23	7.48	6.89	5.91	5.32	10.35	8.90	9.84	11.73	10.24	20.00	11.02	5.51	5.20
D 25 BCS-PFPE (Part No. 113 79)	25 KF	mm	142	190	175	150	135	263	226	250	298	260	570	280	140	132
		in.	5.59	7.48	6.89	5.91	5.32	10.35	8.90	9.84	11.73	10.24	22.44	11.02	5.51	5.20
D 40 BCS-PFPE (Part No. 113 89)	40 KF	mm	135	285	264	206	166	355	308	336	-	317	719	382	191	190
		in.	5.32	11.22	10.39	8.11	6.54	13.98	12.13	13.23	-	12.48	28.31	15.04	7.52	7.48
D 65 BCS-PFPE (Part No. 113 99)	40 KF	mm	213	285	264	206	166	355	308	336	-	317	794	382	191	190
		in.	8.39	11.22	10.39	8.11	6.54	13.98	12.13	13.23	-	12.28	31.26	15.04	7.52	7.48

¹⁾ For dimensions h₄ and l for further part numbers, see paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE"

Dimensional drawing for the TRIVAC D 16 to D 65 BCS-PFPE

Technical Data
TRIVAC D 16 BCS-PFPE
TRIVAC D 25 BCS-PFPE
two-stage
two-stage
50 Hz
60 Hz
50 Hz
60 Hz

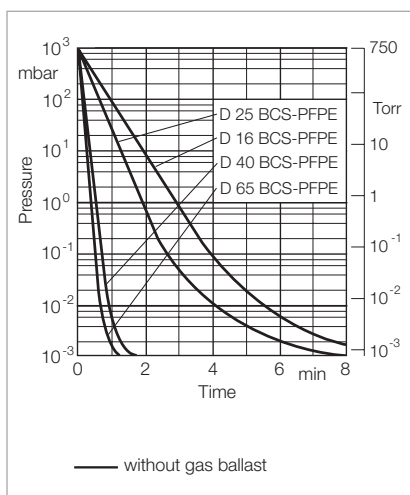
Nominal pumping speed ¹⁾	m ³ /h (cfm)	18.9 (11.1)	22.7 (13.4)	29.5 (17.4)	35.4 (20.9)
Pumping speed ¹⁾	m ³ /h (cfm)	16.5 (9.7)	19.8 (11.7)	25.7 (15.1)	30.8 (18.2)
Ultimate partial pressure without gas ballast ¹⁾	mbar (Torr)	$< 8 \times 10^{-4}$ ($< 6 \times 10^{-4}$)	$< 8 \times 10^{-4}$ ($< 6 \times 10^{-4}$)	$< 8 \times 10^{-4}$ ($< 6 \times 10^{-4}$)	$< 8 \times 10^{-4}$ ($< 6 \times 10^{-4}$)
Ultimate total pressure with gas ballast ¹⁾	mbar (Torr)	$< 5 \times 10^{-3}$ ($< 3.8 \times 10^{-3}$)	$< 5 \times 10^{-3}$ ($< 3.8 \times 10^{-3}$)	$< 5 \times 10^{-3}$ ($< 3.8 \times 10^{-3}$)	$< 5 \times 10^{-3}$ ($< 3.8 \times 10^{-3}$)
Lubricant filling min. / max. upon delivery	l (qt)	0.45 / 1.0 (0.5 / 1.1)	0.45 / 1.0 (0.5 / 1.1)	0.6 / 1.4 (0.6 / 1.5)	0.6 / 1.4 (0.6 / 1.5)
Noise level ²⁾ to DIN 45 635, without / with gas ballast	dB(A)	54 / 56	54 / 56	54 / 56	54 / 56
Admissible ambient temperature	°C (°F)	+12 to +40 (+54 to +104)	+12 to +40 (+54 to +104)	+12 to +40 (+54 to +104)	+12 to +40 (+54 to +104)
Motor rating ²⁾	W (HP)	750 (1.0)	750 (1.0)	750 (1.0)	750 (1.0)
Nominal speed	rpm	1425	1730	1425	1730
Type of protection	IP	3)	3)	3)	3)
Weight ²⁾	kg (lbs)	29.3 (64.5)	29.3 (64.5)	33.8 (74.4)	33.8 (74.4)
Connections, Intake and Exhaust	DN	25 KF	25 KF	25 KF	25 KF

¹⁾ To DIN 28 400 and following numbers

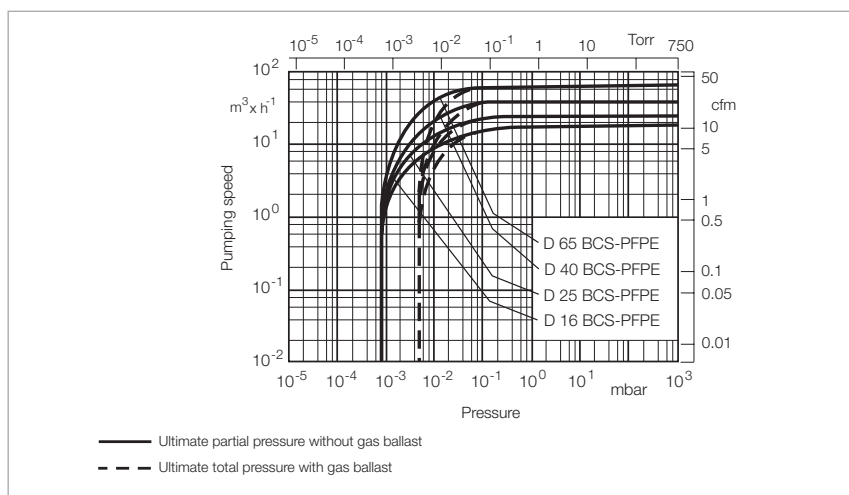
²⁾ Motor rating and noise levels for the pumps with AC motor 50 Hz.

Any data that deviate from the above for pumps with other motors, and other motor-dependent data are given in chapter "Products", paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE".

³⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE".



Pump-down characteristics of a 100 l vessel at 50 Hz



Pumping speed characteristics at 50 Hz (60 Hz curves at the end of the chapter)

Technical Data
TRIVAC D 40 BCS-PFPE
TRIVAC D 65 BCS-PFPE
two-stage
two-stage
50 Hz
60 Hz
50 Hz
60 Hz

		50 Hz	60 Hz	50 Hz	60 Hz
Nominal pumping speed ¹⁾	m ³ /h (cfm)	46 (27)	55 (32.5)	75 (44)	90 (53)
Pumping speed ¹⁾	m ³ /h (cfm)	40 (24)	48 (28)	65 (38)	78 (46)
Ultimate partial pressure without gas ballast ¹⁾	mbar (Torr)	< 8 x 10 ⁻⁴ (< 6 x 10 ⁻⁴)	< 8 x 10 ⁻⁴ (< 6 x 10 ⁻⁴)	< 8 x 10 ⁻⁴ (< 6 x 10 ⁻⁴)	< 8 x 10 ⁻⁴ (< 6 x 10 ⁻⁴)
Ultimate total pressure with gas ballast ¹⁾	mbar (Torr)	< 5 x 10 ⁻³ (< 3.8 x 10 ⁻³)	< 5 x 10 ⁻³ (< 3.8 x 10 ⁻³)	< 5 x 10 ⁻³ (< 3.8 x 10 ⁻³)	< 5 x 10 ⁻³ (< 3.8 x 10 ⁻³)
Lubricant filling min. / max. upon delivery	l (qt) l (qt)	1.7 / 2.6 (1.8 / 2.7) 0.6 (0.6)	1.7 / 2.6 (1.8 / 2.7) 0.6 (0.6)	2.0 / 3.3 (2.1 / 3.5) 0.75 (0.8)	2.0 / 3.3 (2.1 / 3.5) 0.75 (0.8)
Noise level ²⁾ to DIN 45 635, without / with gas ballast	dB(A)	57 / 59	57 / 59	57 / 59	57 / 59
Admissible ambient temperature	°C (°F)	+12 to +40 (+54 to +104)	+12 to +40 (+54 to +104)	+12 to +40 (+54 to +104)	+12 to +40 (+54 to +104)
Motor rating ²⁾	W (HP)	2200 (3.0)	2200 (3.0)	2200 (3.0)	2200 (3.0)
Nominal speed	rpm	1460	1760	1460	1760
Type of protection	IP	3)	3)	3)	3)
Weight ²⁾	kg (lbs)	77.9 (171.8)	77.9 (171.8)	87.9 (193.7)	87.9 (193.7)
Connections, Intake and Exhaust	DN	40 KF	40 KF	40 KF	40 KF

¹⁾ To DIN 28 400 and following numbers

²⁾ Motor rating and noise levels for the pumps with AC motor 50 Hz.

Any data that deviate from the above for pumps with other motors, and other motor-dependent data are given in chapter "Products", paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE".

³⁾ See paragraph "Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE".

Ordering Information

TRIVAC
D 16 BCS-PFPE
two-stageTRIVAC
D 25 BCS-PFPE
two-stageTRIVAC
D 40 BCS-PFPE
two-stageTRIVAC
D 65 BCS-PFPE
two-stage

	Part No.	Part No.	Part No.	Part No.
TRIVAC BCS-PFPE with 3-phase motor 200 – 240 V (200 V IE3) / 380 – 400 V (380 – 400 V IE3), 50 Hz / 200 – 240 (208 – 240 V IE3) / 380 – 480 V (416 – 480 V IE3), 60 Hz	113 69	113 79	-	-
200 – 240 V (200 V IE3) / 380 – 400 V (380 – 400 V IE 3), 50 Hz / 200 – 240 (208 – 240 V IE3) / 400 – 480 V (416 – 480 V IE3), 60 Hz	-	-	113 89	113 99
Accessories				
Roots pump adaptor	-	-	168 30	168 30
Exhaust filter with lubricant return ARS 16-25 ARS 40-65	189 56 -	189 56 -	- 189 57	- 189 57
Condensate trap AK 16-25 AK 40-65	188 11 -	188 11 -	- 188 16	- 188 16
Chemical filter with safety isolation valve CFS 16-25 CFS 40-65	101 76 -	101 76 -	- 101 77	- 101 77
Inert gas system IGS 16-25 IGS 40-65	161 76 -	161 76 -	- 161 68V	- 161 68V
Limit switch system LSS 16-25 LSS 40-65	161 06 -	161 06 -	- 161 07	- 161 07
Spare Parts				
Major maintenance kit, LVO 400 (without oil)	EK110002644	EK110002645	EK110002637	EK110002638
Shaft sealing replacement kit	EK110002650	EK110002650	EK110002643	EK110002643
Seal kit	197 41	197 41	197 42	197 42

For further accessories see section "Accessories for TRIVAC E, B and BCS".





Only available for purchase in North and South America

Ordering Information


TRIVAC D 16 BCS-PFPE
two-stageTRIVAC D 25 BCS-PFPE
two-stage

	Part No.	Part No.
TRIVAC BCS-PFPE with 1-phase motor 200 – 230 V, 50/60 Hz, NEMA plug	-	913 79-2

Motor Dependent Data for the TRIVAC B, BCS and BCS-PFPE

Pump type		D 4 / 8 B	D 4 / 8 B	D 4 / 8 B	D 4 / 8 B
Part No. of the pump		140 081, 140 082	112 45, 112 55	112 46, 112 56 112 5631, 140 246	140 140, 140 150
Motor part number		100002292	6507733	6508538	20010406
Size		80	71	71	71L
Protection class		IP 54	IP 55	IP 55	IP 55
Operating mode in acc. w. IEC 34 / NEMA		S1	S1	S1	S1
Insulation class		F	F	F	F
Phases		1~	1~	3~	3~
Efficiency class		-	-	-	-
Number of poles		4	4	4	4
Nominal output power at 50 Hz at 60 Hz		570 W 660 W	370 W -	370 W 440 W	370 W -
Nominal input frequency		50 Hz / 60 Hz	50 Hz	50 Hz / 60 Hz	50 Hz
Tolerances of voltage range		±10 %	±5 %	±10 %	±5 %
Nominal voltage range and nominal current at 50 Hz		100 – 115 V / 7.7 A 210 – 230 V / 4.0 A	230 V / 3.0 A -	200 – 240 V / 2.3 A 380 – 400 V / 1.07 A	219 – 242 V / 1.84 A 380 – 420 V / 1.06 A
at 60 Hz		100 – 115 V / 5.6 A 210 – 230 V / 2.8 A	- -	200 – 240 V / 2.15 A 380 – 480 V / 1.07 A	- -
Nominal speed 50 Hz 60 Hz	rpm rpm	1420 1690	1410 -	1430 1735	1390 -
Maximum operating altitude above sea level		1000 m	1000 m	1000 m	1000 m
Max. ambient temperature during operation	°C (°F)	40 (104)	40 (104)	40 (104)	40 (104)
Terminal board / plug		Multi-pin plug at junction box, mains cord E20081091 (1.8 m) with Schuko plug CEE 7/7 (included in delivery), mains cord E20081097 (1.8 m) with UK plug BS 1363 (optional), mains cord E20081099 (1.8 m) with CH plug SEV 1011 (optional), mains cord E20081141 (1.8 m) with US plug NEMA 6-15P (optional), mains cord	Mains cord (2 m) with Schuko plug CEE	9 pins	6 pins
Certifications					
Shaft dimension $\varnothing d / l$	mm (in.)	14 / 30 (0.55 / 1.18)	14 / 30 (0.55 / 1.18)	14 / 30 (0.55 / 1.18)	14 / 30 (0.55 / 1.18)
Size of flange A/B	mm (in.)	140 / 95 (5.51 / 3.74)	140 / 95 (5.51 / 3.74)	140 / 95 (5.51 / 3.74)	140 / 95 (5.51 / 3.74)
Length of the pump	mm (in.)	458 (18.03) (D 4 B) 482 (18.98) (D 8 B)	442 (18.11) (D 4 B) 467 (19.06) (D 8 B)	458 (18.62) (D 4 B) 482 (18.98) (D 8 B)	438 (17.24) (D 4 B) 462 (18.19) (D 8 B)
Height up to top edge of junction box h_4	mm (in.)	254 (10.0)	243 (9.57)	247 (9.72)	241 (9.49)

Only available for purchase in North and South America

Pump type		D 8 B
Part No. of the pump		898 974
Motor part number		72260196
Size		56C
Protection class		TEFC
Operating mode in acc. w. IEC 34 / NEMA		continuous
Insulation class		B
Phases		1~
Efficiency class		-
Number of poles		4
Nominal output power at 50 Hz at 60 Hz		240 W 370 W
Nominal input frequency		50 Hz / 60 Hz
Tolerances of voltage range		±5 %
Nominal voltage range and nominal current at 50 Hz		110 V / 9.6 A 220 V / 4.8 A
at 60 Hz		115 V / 8.8 A 208-230 V / 4.5 A
Nominal speed 50 Hz 60 Hz	rpm rpm	1425 1725
Maximum operating altitude above sea level		1000 m
Max. ambient temperature during operation	°C (°F)	40 (104)
Terminal board / plug		12 pin plug at the motor, mains cord (1.8 m) E72127874 with US plug NEMA 5-15P (115 V) (optional)
Certifications		
Shaft dimension $\varnothing d / l$	mm (in.)	15.87 / 52.32 (0.63 / 2.06)
Size of flange A/B	mm (in.)	114.3 (4.5)
Length of the pump	mm (in.)	557 (21.93) (D 8 B)
Height up to top edge of junction box h_4	mm (in.)	287 (11.30)