

# COMPLETE PRODUCT RANGE

Vacuum Pumps and Systems, Compressors  
and Pressure/Vacuum Pumps

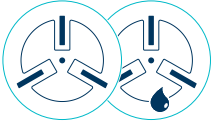
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**MAKE IT BECKER.**



# FUNCTIONAL PRINCIPLES

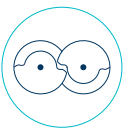
## DISPLACEMENT PUMPS



### ROTARY VANE PUMPS

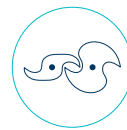
The robustly constructed rotary vane pumps are also suitable for higher pressure differences in vacuum and/or pressure applications. An eccentrically mounted rotor with slots rotates in a cylindrical housing and the precisely fitting sliding vanes move in the slots and separate the individual working chambers. Compared to

dry-running rotary vane pumps, oil-lubricated pumps additionally seal the working chambers with the oil that is also transported. The pumps are thus able to generate a fine vacuum and are therefore suitable for applications that require a high vacuum.



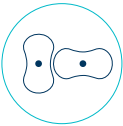
### SCREW PUMPS

Thanks to the direct drive via an integrated frequency inverter, a drive gear is no longer required. The rotors with screw profile rotate in opposite directions and contact less. The working chamber of the machines is 100% oil-free. The integrated speed control enables energy-optimised operation of the devices.



### CLAW PUMPS

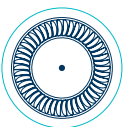
Claw vacuum pumps are 100% free of oil and contact during operation. To achieve this, the claw-like rotors rotate within the compression chamber in opposite directions and are contact less. This makes the pump particularly low-maintenance. The claw technology ensures a high degree of efficiency and low energy consumption.



### ROOTS BOOSTER PUMPS (PUMPING STATIONS)

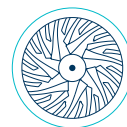
In the case of contact less and oil-free compressing Roots booster pumps, two symmetrical lobes rotate in the working chamber. In combination with a displacement pump (e.g. rotary vane pump), Roots blowers are often used in pumping stations in order to achieve a very high volume flow with a high final vacuum.

## TURBO DYNAMIC PUMPS



### SIDE CHANNEL BLOWERS

Side channel blowers generate suction or blowing air for a wide variety of industrial applications. They contain a contact less, fast rotating impeller and are therefore wear and maintenance free. On both sides of the impeller there are two ring-shaped separate side channels along with the housing. This means that a single-stage device with a high volume flow or a two-stage device with higher pressure differences is possible.



### RADIAL BLOWERS

Radial blowers are designed for high delivery volumes. The volume flow can be precisely adapted to customer requirements using the frequency inverter integrated on the motor. Radial blowers contain a very fast and contact less rotating impeller and are therefore wear and maintenance free.

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KVT 3.60 – KVT 3.140		KDT 3.60 – KDT 3.140	
VTLF 2.200 – VTLF 2.500		DTLF 2.200 – DTLF 2.500	
<b>VARIAIR Unit</b> KVT/VTLF		<b>VARIAIR Unit</b> KDT/DTLF	
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**VARIAIR**  
UNIT

**VARIAIR**  
DIRECT SCREW

**VARIAIR**  
SPEED FLOW

**VARIAIR**  
TURBO PACKAGE

#### VARIAIR

The frequency inverter integrated in the VARIAIR UNIT significantly enhances the performance data of each pumps. It matches pump delivery exactly to customer requirements. Energy consumption is optimised and constant vacuum or pressure is guaranteed even where demand is subject to Variation or severe fluctuation. As no unnecessary blast or suction air is generated,

(air discharge) noise is kept to a minimum. Dirt from the surrounding environment is kept out of the pumps via inlet filtration. "Gentle" pump start-up reduces strain on mechanical components and reliably extends their useful life. Variable Output ranges minimise the number of different types required, thus also providing logistical advantages.



## VT • KVT • VTLF

### ROTARY VANE VACUUM PUMPS

- Oil-free
- Air-cooled
- Integrated suction filter and blow off valve
- VT/KVT with vacuum regulating valve
- VTLF with vacuum safety valve
- Version /O-400 with VARIAIR frequency inverter



VT 4.8



VT 4.25

		m <sup>3</sup> /h – Refers to intake pressure <sup>1)</sup>										
mbar absolute		1000	900	800	700	600	500	400	300	200	150	100
mbar relative		0	-100	-200	-300	-400	-500	-600	-700	-800	-850	-900
<b>VT 4.2</b>	50 Hz	1.9	1.8	1.6	1.3	1.1	0.9	0.7				
	60 Hz	2.3	2.2	2.0	1.8	1.5	1.3	1.0				
<b>VT 4.4</b>	50 Hz	4.1	4.0	3.8	3.6	3.4	3.2	3.0	2.3	1.5	0.7	
	60 Hz	4.7	4.6	4.5	4.3	4.1	3.8	3.5	3.0	2.5	2.0	
<b>VT 4.8</b>	50 Hz	8.0	7.9	7.8	7.6	7.3	7.0	6.5	6.0	5.0	4.0	
	60 Hz	9.1	8.9	8.9	8.7	8.5	8.2	7.4	6.8	5.2	4.0	
<b>VT 4.10</b>	50 Hz	10	9.8	9.6	9.2	8.8	8.2	7.4	6.0	2.9	0.1	
	60 Hz	12	11.8	11.5	11.1	10.6	9.9	8.8	7.1	3.5	0.1	
<b>VT 4.16</b>	50 Hz	16	15.7	15.3	14.9	14.2	13.2	11.8	9.4	4.7	0.1	
	60 Hz	19	18.6	18.2	17.6	16.8	15.6	14.0	11.2	5.6	0.1	
<b>VT 4.25</b>	50 Hz	25	24.5	23.9	23.1	22.1	20.6	18.4	14.7	7.4	0.1	
	60 Hz	30	29.4	28.7	27.7	26.5	24.7	22.1	17.6	8.8	0.1	
<b>VT 4.40</b>	50 Hz	40	39.2	38.2	37.0	35.3	32.9	29.4	23.5	11.8	0.1	
	60 Hz	48	47.1	45.9	44.4	42.4	39.5	35.3	28.2	14.1	0.1	
<b>KVT 3.60</b>	50 Hz	55	55	54	53	52	50	48	45	37	20	0.1
	60 Hz	66	65	64	63	61	59	55	49	37	25	0.1
<b>KVT 3.80</b>	50 Hz	67	66	65	63	61	59	55	49	38	24	0.1
	60 Hz	78.5	77	76	75	73	70	65	58	44	29	0.1
<b>KVT 3.100</b>	50 Hz	98	97	96	93	90	86	80	71	56	35	0.1
	60 Hz	112	111	109	107	104	100	93	83	62	41	0.1
<b>KVT 3.140</b>	50 Hz	129	127	125	123	120	116	108	96	75	47	0.1
	60 Hz	154	152	150	147	143	138	130	117	90		
<b>VTLF 2.200</b>	50 Hz	178	174	170	165	158	152	140	115	85		
	60 Hz	218	214	210	204	197	189	178	160	125		
<b>VTLF 2.250</b>	50 Hz	244	242	238	235	230	222	210	197	165		
	60 Hz	286	284	281	276	270	261	248	230	195		
<b>VTLF 2.250 SK</b>	50 Hz	247	242	236	229	220	213	204	188	159	140	89
	60 Hz	295	292	289	284	276	269	257	240	208	191	142
<b>VTLF 2.360</b>	50 Hz	351	351	350	347	343	334	324	302	283 @ 250 mbar		
	60 Hz	402	403	401	399	391	382	370	360	352 @ 250 mbar		
<b>VTLF 2.400</b>	50 Hz	390	380	371	361	351	325	307	273	243		
	60 Hz	460	456	451	444	435	423	404	373	310		
<b>VTLF 2.500</b>	50 Hz	495	487	480	472	464	450	424	397	376 @ 250 mbar		
	60 Hz	570	565	559	552	541	526	504	463	446 @ 250 mbar		
<b>KVT 3.100/O-400</b>	60 Hz	112	111	109	107	104	99	94	84	68	56	35
<b>KVT 3.140/O-400</b>	60 Hz	145	140	137	134	131	127	121	110	95	83	61
<b>VTLF 2.250/O-400</b>	60 Hz	280	279	278	272	266	256	243	222	178		
<b>VTLF 2.360/O-400</b>	60 Hz	405	405	404	396	385	370	350	349	349 @ 250 mbar		
<b>VTLF 2.500/O-400</b>	60 Hz	560	552	546	537	527	512	489	454	425 @ 250 mbar		

<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±5%

<sup>2)</sup> Alternatively available as DC variant

<sup>3)</sup> Power of the VARIAIR frequency inverter



KVT 3.140



VTLF 2.250 SK



VARIAIR VTLF 2.250/0-400

Technical data												
	kW 3~		kW 1~		db(A)		kg	Length	mm			Connection
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz			Width	Height		
<b>VT 4.2</b>			0.09	0.105	56.0	58.0	7.0	222	156	166	1/4"	
<b>VT 4.4</b>	0.18 <sup>2)</sup>	0.21 <sup>2)</sup>	0.18 <sup>2)</sup>	0.21 <sup>2)</sup>	59.0	61.0	7.0	222	156	166	1/4"	
<b>VT 4.8</b>	0.37 <sup>2)</sup>	0.44 <sup>2)</sup>	0.35 <sup>2)</sup>	0.42 <sup>2)</sup>	58.0	61.0	9.5	233–253	156–164	171.5–179.5	3/8"	
<b>VT 4.10</b>	0.37	0.45	0.37	0.44	60.0	62.0	16.0	429	206	192	1/2"	
<b>VT 4.16</b>	0.55	0.7	0.55	0.66	61.0	64.0	22.5	452	231	208	1/2"	
<b>VT 4.25</b>	0.75	0.9	0.8	1.0	62.0	67.0	26.0	505	260	293	3/4"	
<b>VT 4.40</b>	1.25	1.5	1.1	1.1	67.0	72.0	38.5	572	280	293	3/4"	
<b>KVT 3.60</b>	2.2	2.6			71.0	73.0	84.0	747	353	328	1"	
<b>KVT 3.80</b>	2.2	2.6			72.0	75.0	86.0	747	353	328	1"	
<b>KVT 3.100</b>	3.0	3.6			75.0	77.0	108.0	851	470	336	1 1/2"	
<b>KVT 3.140</b>	4.0	4.8			76.0	79.0	142.5	967	470	336	1 1/2"	
<b>VTLF 2.200</b>	4.0	4.8			75.0	77.0	265.0	1174	644	528	2 1/2"	
<b>VTLF 2.250</b>	5.5	6.6			77.0	79.0	258.0	1144	644	528	2 1/2"	
<b>VTLF 2.250 SK</b>	7.5	9.0			77.0	79.0	268.0	1180	644	558	2 1/2"	
<b>VTLF 2.360</b>	11.0	13.2			80.5	82.5	263.0	1174	644	528	2 1/2"	
<b>VTLF 2.400</b>	7.5	9.0			77.0	79.0	425.0	1477	747	579	4"	
<b>VTLF 2.500</b>	11.0	13.2			79.0	80.0	411.0	1477	747	579	4"	
<b>KVT 3.100/0-400</b>	4.0 <sup>3)</sup>					77.0	109.5	829	470	400	1 1/2"	
<b>KVT 3.140/0-400</b>	4.0 <sup>3)</sup>					77.9	115.5	829	470	400	1 1/2"	
<b>VTLF 2.250/0-400</b>	7.5 <sup>3)</sup>					79.0	270.0	1250	644	580	2 1/2"	
<b>VTLF 2.360/0-400</b>	11.0–22.0 <sup>3)</sup>					79.0	290.0	1179	644	635	2 1/2"	
<b>VTLF 2.500/0-400</b>	11.0–22.0 <sup>3)</sup>					80.0	445.0	1459	747	712	4"	

### SERIES X: BECKER INNOVATION WITH TOP WARRANTY

Equipped with specially developed vanes, these oil-free rotary vane pumps distinguish themselves by high abrasion resistance, and with that extremely long service lives. Due to the low wear there is also minimal dust, so the series X pumps are perfectly suited for precision processes under clean room conditions.

This innovation branded by Becker is outstanding not only because of its 100 percent oil-free operation, excellent degree of efficiency and low power consumption.

In the area of sensitive vacuum, series X also guarantees precise low-pulsation air conduction.

Becker guarantees for these pumps a vane life-time of 20,000 operating hours or a maximum of 3 years. The enhanced longevity of X series pumps also extends service life intervals, and can cut out the need for frequent service visits with costly pump failures now no longer an issue.

Available as

- VX 4.10 – VX 4.40 (100 mbar absolute)
- KVX 3.60 – KVX 3.140
- VXLF 2.200, 2.250, 2.400 & 2.500



### ADVANTAGES

- Quick, clean and quiet
- Oil-free
- Wear resistant
- Energy saving
- Long-life reliability



## ROTARY VANE VACUUM PUMPS

- Oil-lubricated
- Air-cooled
- Non return valve and oil separator
- U 5.40 XL K – U 5.301 additionally with gas ballast valve and oil filter
- VARIAIR pumps including frequency inverter



O 6.4



O 5.25 XL K

		m <sup>3</sup> /h – Nominal air flow refers to intake pressure <sup>1)</sup>													m <sup>3</sup> /h <sup>1)</sup>	
mbar absolute		1000	900	800	700	600	500	400	300	200	100	50	25	10	@ max.	
mbar relative		0	-100	-200	-300	-400	-500	-600	-700	-800	-900	-950	-975	-990	mbar (abs.)	
<b>O 6.4</b>	50 Hz	4.0	3.9	3.8	3.8	3.7	3.6	3.5	3.4	3.4	3.3	2.6	2.4	1.9	0.1	≤2.0
	60 Hz	4.8	4.7	4.6	4.6	4.5	4.4	4.3	4.2	4.1	3.9	3.2	3.0	2.4	0.1	≤2.0
<b>O 6.8</b>	50 Hz	8.0	7.5	7.5	7.5	7.4	7.4	7.3	7.3	7.3	7.2	6.2	5.9	5.2	0.1	≤2.0
	60 Hz	9.6	9.2	9.1	9.1	9.0	9.0	8.9	8.8	8.8	8.7	8.4	8.0	7.0	0.1	≤2.0
<b>O 5.10 XL</b>	50 Hz	10.5	10.0	10.0	10.0	10.0	9.5	9.5	9.5	9.0	9.0	8.5	8.0	6.5	0.1	2.0
	60 Hz	12.5	12.0	12.0	12.0	12.0	12.0	11.5	11.5	11.5	10.5	9.5	8.5	7.5	0.1	2.0
<b>O 5.16 XL</b>	50 Hz	16.0	16.0	15.5	15.5	15.5	15.0	15.0	14.5	14.0	13.5	12.5	12.0	9.5	0.1	2.0
	60 Hz	19.0	19.0	16.5	18.5	18.0	17.5	17.5	17.0	16.5	15.5	14.5	13.5	11.0	0.1	2.0
<b>O 5.21 XL</b>	50 Hz	23.5	23.0	22.5	22.5	22.0	22.0	22.0	22.0	22.0	22.0	22.0	21.0	15.0	0.1	2.0
	60 Hz	27.0	26.5	26.5	26.0	26.0	25.0	24.5	24.5	24.5	24.5	24.5	24.0	19.0	0.1	2.0
<b>O 5.25 XL K</b>	50 Hz	26	25.5	25.0	25.0	24.5	24.5	24.5	24.5	24.5	24.5	24.5	23.5	16.0	0.1	2.0
	60 Hz	30	29.5	29.5	29	29	28	27.5	27.5	27.5	27.5	27.5	27.0	20.0	0.1	2.0
<b>U 5.40 XL K</b>	50 Hz	40	39.5	39.0	38.5	38.1	37.6	37.1	36.4	36.5	34.5	34.6	33.6	32.7	0.1	1.0
	60 Hz	48	47.2	46.5	45.7	45	44.4	43.8	43	41.9	40.9	39.4	37.8	36.2	0.1	1.0
<b>U 5.45</b>	50 Hz	45	45	45	45	45	45	45	44	43	43	43	42	41	0.1	0.5
	60 Hz	54	54	54	54	54	54	53	52	51	51	51	50	48	0.1	0.5
<b>U 5.65 XL K</b>	50 Hz	65	63	62	61	60	59	58	57	56	54	50	47	40	0.1	0.5
	60 Hz	78	76	74	72	71	70	69	68	66	64	59	57	48	0.1	0.5
<b>U 5.71</b>	50 Hz	70	69	68	67	66	65	64	63	62	61.5	57	56	53	0.1	<0.1
	60 Hz	84	83	82	81	80	78	77	76	75	74	67	65	58	0.1	<0.1
<b>U 5.101</b>	50 Hz	100	98	96	94	92	91	89	87	85	83	81	77	73	0.1	<0.1
	60 Hz	120	117	115	112	109	107	104	101	99	96	94	91	80	0.1	<0.1
<b>U 5.166</b>	50 Hz	165	162	159	157	154	151	148	145	141	136	133	121	106	0.1	<0.1
	60 Hz	198	195	191	188	184	181	177	174	170	163	159	141	127	0.1	<0.1
<b>U 5.201</b>	50 Hz	200	196	193	189	185	182	178	174	171	168	163	149	137	0.1	<0.1
	60 Hz	240	235	230	226	221	216	211	206	203	194	189	167	154	0.1	<0.1
<b>U 5.301</b>	50 Hz	300	294	290	284	278	273	267	261	257	252	245	236	218	0.1	<0.1
	60 Hz	360	353	345	339	332	324	317	309	305	291	284	263	248	0.1	<0.1
<b>U 4.400 SA/K U 4.400 F/K</b>	50 Hz	435	435	435	435	435	435	435	434	434	433	431	428	413	0.1	3.0/0.5
	60 Hz	508	508	508	508	508	508	508	507	507	506	503	498	583	0.1	3.0/0.5
<b>U 4.630 SA/K U 4.630 F/K</b>	50 Hz	624	624	624	624	624	624	624	623	623	621	617	612	592	0.1	3.0/0.5
	60 Hz	732	732	732	732	732	732	732	731	731	729	724	718	696	0.1	3.0/0.5
<b>VARIAIR U 5.101</b>	60 Hz	140	124	121	119	117	115	113	111	108	105	100	94	89	0.5	0.1
<b>VARIAIR U 5.201</b>	60 Hz	240	233	227	219	211	202	194	193	208	225	211	196	177	32	0.1
<b>VARIAIR U 5.301</b>	60 Hz	330	331	332	333	335	336	336	335	334	331	328	320	300	0.5	0.1



U 5.40 XL K



U 5.65 XL K



U 5.71

Technical data													
	max. mbar absolute		kW 3~		kW 1~		db(A)		kg	mm			Connection
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		Length	Width	Height	
<b>Ø 6.4</b>	≤2.0	≤2.0			0.12	0.15	48.0	52.0	5.4	247–258	139–217.5	138	Ø9 mm
<b>Ø 6.8</b>	≤2.0	≤2.0			0.25–0.3	0.3–0.36	58.0	60.0	10.0	295	166–230	132.5	Ø17 mm
<b>Ø 5.10 XL</b>	2.0	2.0	0.37	0.45	0.37–0.55	0.45–0.66	58.5	64.0	18.5	291–320.5	223.7	158–187.7	½" / ¾"
<b>Ø 5.16 XL</b>	2.0	2.0	0.55	0.66	0.55	0.66	60.5	67.0	18.5	320–320.5	223.7	158–187.7	½" / ¾"
<b>Ø 5.21 XL</b>	2.0	2.0	0.75	0.90	0.75	0.90	64.0	69.0	21.5	320.5–353.5	227–278.5	196.4	½" / ¾"
<b>Ø 5.25 XL K</b>	2.0	2.0	0.75	0.90	0.75	0.90	63.0	63.0	24.5	431.8	227.5–282.6	211–219.4	½" / ¾"
<b>U 5.40 XL K</b>	1.0–300	1.0–300	1.1	1.35	1.1	1.35	67.0	71.0	≤28.5	≤457	≈250	≤192.1	1"
<b>U 5.45</b>	0.5–300	0.5–300	1.5	1.5–1.8			62.0	64.0	31	≤615	283	263	1 ¼"
<b>U 5.65 XL K</b>	0.5–300	0.5–300	1.5	1.5–1.8			72.0	74.0	36	≤651	356	263	1 ¼"
<b>U 5.71</b>	<0.1–100	<0.1–100	1.5	1.8			64.0	67.0	60.5	696	380	330	1 ¼"
<b>U 5.101</b>	<0.1–400	<0.1–400	2.2	2.6			65.0	68.0	77.0	741	380	330	1 ¼"
<b>U 5.166</b>	<0.1–100	<0.1–100	3.0	3.6			70.0	72.0	107.0	842	510	399	2"
	<0.1–400	<0.1–400	4.0	4.8			70.0	72.0	104.0	820			
<b>U 5.201</b>	<0.1–100	<0.1–100	4.0	4.8			72.0	75.0	102.0	820	510	399	2"
	<0.1–400	<0.1–400	5.5	6.6			72.0	75.0	121.0	884			
<b>U 5.301</b>	<0.1–100	<0.1–100	5.5	6.6			73.0	76.0	161.5	974	549	409	2"
	<0.1–400	<0.1–400	7.5	9.0			73.0	76.0	161.5				
<b>U 4.400 SA/K</b>	3.0	3.0	11.0	13.2			78.0	81.0	400.0	1368	672	506	3"
<b>U 4.400 F/K</b>	0.5	0.5	11.0	13.2			78.0	81.0	400.0	1368	672	506	3"
<b>U 4.630 SA/K</b>	3.0	3.0	15.0	18.0			80.0	83.0	545.0	1538	695	506	3"
<b>U 4.630 F/K</b>	0.5	0.5	15.0	18.0			80.0	83.0	545.0	1538	695	506	3"
<b>VARIAIR U 5.101</b>	0.1	0.1	4.0 <sup>2)</sup>				65.0	68.0	71.5	736	380	373	1 ¼"
<b>VARIAIR U 5.201</b>	0.1	0.1	4.0 <sup>2)</sup>				72.0	74.0	107.0	821	510	410	2"
<b>VARIAIR U 5.301</b>	0.1	0.1	7.5 <sup>2)</sup>				73.0	76.0	170.0	980	549	468	2"

**VARIAIR**  
UNIT



VARIAIR U 5.101

<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±5% (U 4.) / ±10% (U 5.)

<sup>2)</sup> Power of the VARIAIR frequency inverter

## VADS

### SCREW VACUUM PUMPS

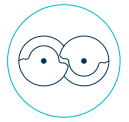
- Non-contact compression
- Air-cooled
- Direct drive
- VARIAIR frequency inverter



VADS 250



VADS 1500+



	m <sup>3</sup> /h – Refers to intake pressure <sup>1)</sup>														
mbar absolute	1000	900	800	700	600	500	400	300	200	100	50	25	10	5	≤0.1
mbar relative	0	-100	-200	-300	-400	-500	-600	-700	-800	-900	-950	-975	-990	-995	≤-999.9
<b>VADS 250</b> 340 Hz	240	241	241	243	245	247	247	249	250	263	287	293	296	290	0.1
<b>VADS 1500+</b> 200 Hz	1380	1385	1390	1375	1360	1330	1300	1230	1160						

Technical data								
	Frequency inverter	db(A)	kg	mm			Connection	
				Length	Width	Height		
<b>VADS 250</b>	7.5 kW • 400/480 V ±10% • 50/60 Hz	68	280	1192	520	905	2 ½"	
<b>VADS 1500+</b>	30.0 kW • 400/480 V ±10% • 50/60 Hz	75/80 (110/200 Hz)	1200	1600	1510	1806	DN 150	



<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±5%

## BCV • VARIAIR BCV

### CLAW VACUUM PUMPS

- Non-contact compression
- Air-cooled
- Integrated suction filter
- VARIAIR BCV with VARIAIR frequency inverter



BCV 150



BCV 300



		m <sup>3</sup> /h – Refers to intake pressure <sup>1)</sup>											
mbar absolute		1000	900	800	700	600	500	400	300	200	150	100	50
mbar relative		0	-100	-200	-300	-400	-500	-600	-700	-800	-850	-900	-950
<b>BCV 100</b>	50 Hz	100	88	86	84	81	77	73	67	57	38	19	0.1
	60 Hz	120	108	106	103	101	97	94	89	74	49	25	0.1
<b>BCV 150</b>	50 Hz	150	137	132	129	124	121	114	106	96	77	50	
	60 Hz	180	162	158	155	150	145	139	133	131	111	86	
<b>BCV 300</b>	50 Hz	275	256	253	250	246	243	239	230	191	154		
	60 Hz	325	305	302	300	293	288	283	271	250	204		
<b>VARIAIR BCV 100</b>	60 Hz	120	102	101	99	98	96	94	90	82	73	59	10
<b>VARIAIR BCV 150</b>	60 Hz	180	150	149	147	145	142	140	130	110	92	60	
<b>VARIAIR BCV 300</b>	60 Hz	325	289	286	286	289	291	289	260	196	146		

Technical data										
	kW 3~		db(A)		kg	Length	mm			Connection
	50 Hz	60 Hz	50 Hz	60 Hz			Width	Height		
<b>BCV 100</b>	2.2–3.0	2.2–3.0	67	71	121–133	768–805	537	532.5	2 ½"	
<b>BCV 150</b>	3.0–4.0	3.0–4.0	67	71	190–201	805–847	537	579.5	2 ½"	
<b>BCV 300</b>	5.5–7.5	5.5–7.5	69	70	323–331	918	580	624.0	2 ½"	
<b>VARIAIR BCV 100</b>	4.0 <sup>2)</sup>		70		178	847	537	532.5	2 ½"	
<b>VARIAIR BCV 150</b>	4.0 <sup>2)</sup>		71		208	823	537	579.5	2 ½"	
<b>VARIAIR BCV 300</b>	7.5 <sup>2)</sup>		74		340	956	580	624.0	2 ½"	

**VARIAIR**  
UNIT



VARIAIR BCV 300

<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±10%

<sup>2)</sup> Power of the VARIAIR frequency inverter

## SV

## SIDE CHANNEL VACUUM PUMPS

- Non-contact compression
- Single or double stage
- Air-cooled



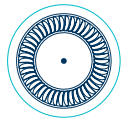
SV 130



SV 400



SV 1100



	m <sup>3</sup> /h – Refers to intake pressure <sup>1)</sup>										m <sup>3</sup> /h <sup>1)</sup>	
mbar absolute	1000	950	900	850	800	750	700	650	600		@ max.	
mbar relative	0	-50	-100	-150	-200	-250	-300	-350	-400		mbar (rel.)	
<b>Single stage</b>												
<b>SV 1.50/3</b>	50 Hz	41	21	0.1							0.1	-100
	60 Hz	48	32	6							6	-100
<b>SV 5.90/1</b>	50 Hz	75	45	12							9	-105
	60 Hz	91	63								44	-80
<b>SV 130/1</b>	50 Hz	130	104	77	51	24					3	-240
	60 Hz	160	136	110	83	57	35				22	-270
<b>SV 200/1</b>	50 Hz	180	138	103	68	26					12	-215
	60 Hz	230	181	143	108	71					47	-230
<b>SV 201/1</b>	50 Hz	190	159	131	104	76	51				38	-275
	60 Hz	230	198	170	142	115	89				72	-285
<b>SV 300/1</b>	50 Hz	325	284	242	203	160	121				87	-290
	60 Hz	390	350	311	271	227	185	135			127	-310
<b>SV 400/1</b>	50 Hz	390	354	315	274	231	186	138			123	-315
	60 Hz	470	435	397	356	312	266	216			174	-340
<b>SV 500/1</b>	50 Hz	510	472	427	384	343	300	252			191	-355
	60 Hz	610	580	540	499	456	410	361			286	-370
<b>SV 700/1</b>	50 Hz	750	684	613	547	475	407	326			258	-340
	60 Hz	900	832	763	697	631	560	483			424	-340
<b>SV 1100/1</b>	50 Hz	1050	963	878	788	700	603	499			454	-320
	60 Hz	1250	1168	1091	1006	919	824	726			684	-320
<b>Double stage</b>												
<b>SV 5.90/2</b>	50 Hz	43	30	18	8						0.8	-190
	60 Hz	52	39	28	17	8					1.2	-240
<b>SV 130/2</b>	50 Hz	70	58	47	39	31	24	17	9		4	-380
	60 Hz	85	74	65	56	48	40	33	26	18	18	-400
<b>SV 200/2</b>	50 Hz	90	75	60	48	39	27	14			6	-330
	60 Hz	110	95	81	71	60	49	37	23		23	-350
<b>SV 201/2</b>	50 Hz	90	82	72	64	55	47	39	28	17	17	-400
	60 Hz	110	101	92	84	74	65	56	46	35	35	-400
<b>SV 300/2</b>	50 Hz	160	144	131	119	105	92	77	63	46	45	-405
	60 Hz	190	177	164	153	140	126	111	97	80	78	-410
<b>SV 400/2</b>	50 Hz	195	181	166	151	136	121	107	92	77	65	-440
	60 Hz	235	222	208	194	180	166	151	136	120	107	-440
<b>SV 500/2</b>	50 Hz	260	240	218	199	177	158	139	122	104	101	-410
	60 Hz	305	292	274	256	238	220	202	183	164	164	-400
<b>SV 700/2</b>	50 Hz	375	352	332	312	292	272	250	226	198	198	-400
	60 Hz	435	418	401	383	365	345	323	304	273	273	-400
<b>SV 1100/2</b>	50 Hz	510	468	424	380	337	295	254	217		189	-390
	60 Hz	605	559	512	466	421	376	333	290		257	-390

<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±10%

Technical data													
	max. mbar relative		kW 3~		kW 1~		dB(A)		kg	mm			Connection
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		Length	Width	Height	
<b>Single stage</b>													
<b>SV 1.50/3</b>	-100	-100	0.18	0.21	0.15	–	62.0	63.0	8.0	225	220	235	1"
<b>SV 5.90/1</b>	-105	-80	0.37	0.44	0.37	0.44	63.0	64.0	13.0	262	232	306–311	1 ¼"
<b>SV 130/1</b>	-75	-65	0.55	0.66	0.55	0.66	60.9	63.6	21.0	380.5			
	-125	-115	0.75	0.90	0.75	0.90	60.9	63.6	22.0	384–400			
	-210	-200	1.10	1.29	1.10	1.30	63.4	64.8	22.5	387–423	264	309	1 ½"
	-240	-245	1.25	1.50			63.4	64.8	24.5	423			
<b>SV 200/1</b>	-240	-270	1.50	1.80	1.50	1.80	64.0	65.4	26.0	423–427			
	-150	-140	1.10	1.29	1.10	1.30	63.9	69.2	25.5	421	306	357	2"
<b>SV 201/1</b>	-215	-230	1.50	1.80	1.50	1.80	63.9	69.2	28.5	431			
	-140	-125	1.10	1.29	1.10	1.30	65.2	68.3	25.5	421			
<b>SV 201/1</b>	-220	-210	1.50	1.80	1.50	1.80	66.5	68.2	28.5	431	306	357	2"
	-275	-285	2.20	2.65			66.3		32.5	452			
	-170	-155	2.2	2.65			67.3	68.3	40.0	469			
<b>SV 300/1</b>	-265	-245	3.0	3.6			70.1	71.0	42.5	494	370	426	2 ½"
	-290	-310	4.0	4.8			71.4	72.7	54.5	538			
	-210	-190	3.0	3.6			72.5	74.4	52.5	489			
<b>SV 400/1</b>	-315	-290	4.0	4.8			72.5	74.4	53.0	502	390	454	3"
	-315	-340	5.5	6.6			74.5	74.0	54.5	536			
	-200	-175	4.0	4.8			75.5	76.7	≤61.5	496			
<b>SV 500/1</b>	-315	-290	5.5	6.6			75.5	76.7	66.5	530	474	523	3"
	-355	-370	7.5	9.0			75.5	76.7	75.5	600			
	-200	-170	5.5	6.6			69.0	71.0	89.0	572			
<b>SV 700/1</b>	-300	-280	7.5	9.0			72.0	73.0	112.0	614	496	596	4"
	-340	-340	11.0	13.2			73.0	74.0	119.0	635			
	-160	-130	7.5	9.0			73.0	77.0	118.0	622			
<b>SV 1100/1</b>	-290	-270	11.0	13.2			75.0	79.0	125.0	643	525	611	4"
	-320	-320	15.0	18.0			75.0	79.0	157.0	680			
<b>Double stage</b>													
<b>SV 5.90/2</b>	-190	-240	0.37	0.44	0.37	0.44	62.0	64.0	13.0	265	245	306–311	1 ¼"
<b>SV 130/2</b>	-170	-150	0.55	0.66	0.55	0.66	57.3	59.0	21.5	385.5			
	-270	-250	0.75	0.90	0.75	0.90	60.4	59.6	22.0	385.5–400	264	309	1 ½"
	-380	-400	1.10	1.29	1.10	1.30	59.8	62.7	23.0	387–423			
<b>SV 200/2</b>	-330	-300	1.10	1.29	1.10	1.30	63.7	68.4	25.5	426			
	-330	-350	1.50	1.80	1.50	1.80	63.7	68.4	28.5	431	306	357	2"
<b>SV 201/2</b>	-280	-250	1.10	1.29	1.10	1.30	65.6	68.7	25.5	426			
	-400	-400	1.50	1.80	1.50	1.80	65.6	68.7	28.5	431	306	357	2"
<b>SV 300/2</b>	-350	-315	2.20	2.65			67.8	67.5	40.5	469			
	-405	-410	3.00	3.60			69.9	69.7	43.0	494	370	426	2 ½"
<b>SV 400/2</b>	-440	-400	3.0	3.6			71.1	73.0	53.5	489			
	-440	-440	4.0	4.8			71.1	73.0	54.0	502	390	454	3"
<b>SV 500/2</b>	-280	-240	3.0	3.6			68.9	71.7	58.0	485			
	-410	-400	4.0	4.8			68.9	71.7	≤62.5	496	474	523	3"
<b>SV 700/2</b>	-390	-340	5.5	6.6			68.0	69.0	89.0	572			
	-400	-400	7.5	9.0			69.0	73.0	112.0	614	496	596	4"
<b>SV 1100/2</b>	-340	-250	7.5	9.0			69.0	76.0	118.0	622			
	-390	-390	11.0	13.2			71.0	77.0	125.0	643	525	611	4"

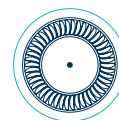
## VARIAIR SV • VARIAIR Speed Flow

### SIDE CHANNEL VACUUM PUMPS

- Non-contact compression
- Single or double stage
- Air-cooled
- VARIAIR frequency inverter



VARIAIR SV 300

VASF 2.120 AC <sup>21</sup>

		m <sup>3</sup> /h – Refers to intake pressure <sup>1)</sup>									m <sup>3</sup> /h <sup>1)</sup>	
mbar absolute		1000	950	900	850	800	750	700	650	600	@ max.	
mbar relative		0	-50	-100	-150	-200	-250	-300	-350	-400	mbar (rel.)	
<b>Single stage</b>												
<b>VARIAIR SV 130/1</b>	100 Hz	285	249	214	180	148	117	87			83	-305
<b>VARIAIR SV 201/1</b>	100 Hz	350	351	331	304	272	238	121			88	-310
<b>VARIAIR SV 300/1</b>	87 Hz	560	532	499	461	350	169				121	-255
<b>VARIAIR SV 300/1</b>	100 Hz	640	621	589	554	515	403	249			247	-305
<b>VARIAIR SV 400/1</b>	100 Hz	865	844	805	759	706	644	544			369	-340
<b>VARIAIR SV 500/1</b>	100 Hz	1000	984	952	914	867	811	742	659		584	-370
<b>VARIAIR SV 700/1</b>	80 Hz	1180	1148	1096	1028	949	867	789			735	-336
<b>VASF 2.50/1</b>	300 Hz	48	43	40.5	37.5	33.5	28 AC 20 DC				0.1	-290 AC -280 DC
<b>VASF 2.80/1</b>	250 Hz	90	79	72	67	61	51				0.1	-280 AC -290 DC
<b>VASF 2.120/1</b>	200 Hz	143	125	115	109	93					0.1	-230 AC
<b>Double stage</b>												
<b>VARIAIR SV 130/2</b>	100 Hz	140	125	112	100	88	76	65	55	45	42	-410
<b>VARIAIR SV 201/2</b>	100 Hz	175	172	166	159	152	144	135	125	113	105	-420
<b>VARIAIR SV 300/2</b>	100 Hz	300	298	290	281	272	262	249	225	198	192	-410
<b>VASF 2.50/2</b>	300 Hz	24	22	20.5	19.5	18.5	17.5	16.5	15	14	0.1	-560 AC -550 DC
<b>VASF 2.80/2</b>	250 Hz	45	42	38	35	33	30	27	24	19	0.1	-500 AC -570 DC
<b>VASF 2.120/2</b>	200 Hz	71	64	59	55	51	48	45	41	34	0.1	-460 AC

Technical data									
	Frequency inverter	db(A)	kg	mm			Connection		
				Length	Width	Height			
<b>VARIAIR SV 130/X</b>	4.0 kW • 400/480 V ±10% • 50/60 Hz	70.0	30.5	424	264	380	1 ½"		
<b>VARIAIR SV 201/X</b>	4.0 kW • 400/480 V ±10% • 50/60 Hz	77.2	32.0	428	306	407	2"		
<b>VARIAIR SV 300/1</b> 87 Hz	4.0 kW • 400/480 V ±10% • 50/60 Hz	70.2	46.0	493	370	456	2 ½"		
<b>VARIAIR SV 300/X</b> 100 Hz	7.5 kW • 400/480 V ±10% • 50/60 Hz	71/74	49.5	512	370	499	2 ½"		
<b>VARIAIR SV 400/1</b>	11–22 kW • 400/480 V ±10% • 50/60 Hz	76.8	75.0	572	390	592	3"		
<b>VARIAIR SV 500/1</b>	11–22 kW • 400/480 V ±10% • 50/60 Hz	80.6	97.5	599	474	625	3"		
<b>VARIAIR SV 700/1</b>	11–22 kW • 400/480 V ±10% • 50/60 Hz	74.5	120.0	633	496	682	4"		
<b>VASF 2.50/X</b>	0.65 kW • AC~ • 200 V -10% ... 230 V +10% • 50/60 Hz	61.0	12.3		176	257			
	0.60 kW • AC~ • 100 V -10% ... 115 V +10% • 50/60 Hz	61.0	12.3	353	176	257	1"		
	0.75–0.77 kW • DC~ • 24 V ±20%	65.0	11.5		173	233			
<b>VASF 2.80/X</b>	1.1 kW • AC~ • 200 V -10% ... 230 V +10% • 50/60 Hz	61.0	15.0		176	291			
	1.1 kW • DC~ • 48 V ±20%	65.0	14.7	391	173	268	1 ¼"		
<b>VASF 2.120/X</b>	1.4 kW • AC~ • 200 V -10% ... 230 V +10% • 50/60 Hz	63.0	18.8	432	200	320	1 ½"		

<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±10%

<sup>2)</sup> Optionally with integrated VARIAIR frequency inverter, fan and silencers

## VARIAIR RV • VATP

### RADIAL VACUUM PUMPS

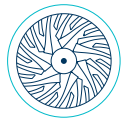
- Non-contact compression
- Air-cooled
- VARIAIR RV with external VARIAIR frequency inverter
- VATP (VARIAIR Turbo Package) consisting of RV 2.1944/10, VARIAIR frequency inverter, intake filter and sound enclosure



RV 2.1944/10



VATP 1600



		m <sup>3</sup> /h – Refers to intake pressure <sup>1)</sup>						
mbar absolute		1000	950	900	850	800	750	710
mbar relative		0	-50	-100	-150	-200	-250	-290
<b>RV 2.1944/10</b>	400 Hz	1570	1615	1508	1389	1254	1060	486
<b>VATP 1600</b>	400 Hz	1570	1615	1508	1389	1254	1060	486

Technical data								
	Frequency inverter	db(A)	kg	mm			Connection	
				Length	Width	Height		
<b>RV 2.1944/10</b>	11–22 kW <sup>2)</sup> • 400/480 V ±10% • 50/60 Hz	75	81	550 <sup>3)</sup>	450 <sup>3)</sup>	520 <sup>3)</sup>	Ø150 mm	
<b>VATP 1600</b>	11–22 kW <sup>2)</sup> • 400/480 V ±10% • 50/60 Hz	64	162	814	574	1134	<sup>4)</sup>	

<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±5%  
<sup>2)</sup> Alternatively available as 7.5 kW version (see pump data sheet)  
<sup>3)</sup> Without frequency inverter  
<sup>4)</sup> Flange for hose connector



## DT • KDT • DTLF

### ROTARY VANE COMPRESSORS

- Oil-free
- Air-cooled
- Integrated suction filter
- DT/KDT with pressure regulating valve
- DTLF with pressure safety valve
- Version /O-400 with VARIAIR frequency inverter



DT 4.4



DT 4.16

		m <sup>3</sup> /h <sup>1)</sup>									m <sup>3</sup> /h <sup>1)</sup>	
bar absolute		1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	@ max.	
bar relative		0	+0.2	+0.4	+0.6	+0.8	+1.0	+1.2	+1.4	+1.6	bar (rel.)	
<b>DT 4.2</b>	50 Hz	1.9	1.7	1.6	1.6						1.6	+0.6
	60 Hz	2.3	2.1	2.0	1.9						1.9	+0.6
<b>DT 4.4</b>	50 Hz	4.2	4.0	3.8	3.6	3.4	3.2				3.2	+1.0
	60 Hz	4.9	4.7	4.5	4.3	4.0	3.8				3.8	+1.0
<b>DT 4.6/0-61</b>	50 Hz	5.7	5.3	4.9							4.9	+0.4
	60 Hz	6.4	5.9	5.4							5.4	+0.4
<b>DT 4.8</b>	50 Hz	8.0	7.8	7.5	7.2	6.8	6.5				6.5	+1.0
	60 Hz	9.5	9.1	8.7	8.3	7.9	7.5				7.5	+1.0
<b>DT 4.10</b>	50 Hz	10	9.5	8.9	8.2	7.6	7.0				7	+1.0
	60 Hz	12	11.7	11.1	10.4	9.8	9.2				9.2	+1.0
<b>DT 4.16</b>	50 Hz	16	15.3	14.6	13.9	13.2	12.5				12.5	+1.0
	60 Hz	19	18.5	17.8	17.1	16.4	15.8				15.8	+1.0
<b>DT 4.25 K</b>	50 Hz	25	24.4	23.8	23.2	22.6	22.0				22	+1.0
	60 Hz	30	29.5	29.0	28.5	28.0	27.5				27.5	+1.0
<b>DT 4.40 K</b>	50 Hz	40	37.8	36.6	35.3	34.1	32.9				32.9	+1.0
	60 Hz	48	45.8	44.6	43.3	42.1	40.9				40.9	+1.0
<b>KDT 3.60</b>	50 Hz	54	53	51	49	47	45	44	42		41	+1.5
	60 Hz	63	62	60	59	57	55	54	52		51	+1.5
<b>KDT 3.80</b>	50 Hz	66	64	62	61	59	57	55	53		52	+1.5
	60 Hz	77	75	73	72	70	68	66	64		63	+1.5
<b>KDT 3.100</b>	50 Hz	99	97	94	92	90	88	86	84		83	+1.5
	60 Hz	118	116	114	111	109	106	104	102		101	+1.5
<b>KDT 3.140</b>	50 Hz	129	127	125	123	121	119	116	113		112	+1.5
	60 Hz	153	151	149	147	144	142	140	138		137	+1.5
<b>DTLF 2.200</b>	50 Hz	174	168	163	158	152	147	141	136	130	125	+1.8
	60 Hz	216	212	207	201	196	191	186	181	175	170	+1.8
<b>DTLF 2.250</b>	50 Hz	247	243	239	234	229	223	219	214	209	205	+1.8
	60 Hz	294	290	285	280	276	271	265	260	255	249	+1.8
<b>DTLF 2.250 K</b>	50 Hz	240	236	232	228	223	218	214	210	206	203	+1.8
	60 Hz	284	279	275	270	265	260	256	252	247	241	+1.8
<b>DTLF 2.360</b>	50 Hz	360	357	353	350	346					344	+0.9
<b>DTLF 2.400</b>	50 Hz	365	354	343	335	329	326	324	322	321	320	+1.8
	60 Hz	440	432	421	417	414	410	406	402	399	395	+1.8
<b>DTLF 2.500</b>	50 Hz	515	493	481	471	460	450	440	430	421	412	+1.8
	60 Hz	600	586	574	562	552	542	532	522	510	494	+1.8
<b>KDT 3.80/0-400</b>	60 Hz	77	74	72	70	68	66	64	62		61	+1.5
<b>KDT 3.100/0-400</b>	60 Hz	118	116	114	111	109	106	103	99		98	+1.5
<b>KDT 3.140/0-400</b>	60 Hz	150	149	147	145	143	142	130	119		114	+1.5
<b>DTLF 2.250/0-400</b>	60 Hz	290	287	283	279	273	267	261	257	150	118	+1.7
<b>DTLF 2.500/0-400</b>	60 Hz	584	573	563	552	543	535	510	461		430	+1.5



VARI AIR KDT 3.80/0-400



KDT 3.140



DTLF 2.250

Technical data										
	max. bar rel. 50 & 60 Hz	kW 3~		db(A)		kg	mm			Connection
		50 Hz	60 Hz	50 Hz	60 Hz		Length	Width	Height	
<b>DT 4.2</b>	+0.6	0.09 (1~)	0.105 (1~)	53.0	55.0	7.0	222	156	166	1/4"
<b>DT 4.4</b>	+1.0	0.18 <sup>2,3)</sup>	0.21 <sup>2,3)</sup>	60.0	60.5	7.0	222	156	166	1/4"
<b>DT 4.6/0-61</b>	+0.4	0.18 <sup>3)</sup>	0.21 <sup>3)</sup>	67.0	69.0	7.0	233	156	172	3/8"
<b>DT 4.8</b>	+1.0	0.37 <sup>3)</sup>	0.44 <sup>3)</sup>	58.0	61.5	9.5	233–253	156–164	171.5–179.5	3/8"
<b>DT 4.10</b>	+1.0	0.37 <sup>3)</sup>	0.45 <sup>3)</sup>	60.0	62.0	16.0	429	206	195	1/2"
<b>DT 4.16</b>	+1.0	0.55 <sup>3)</sup>	0.70 <sup>3)</sup>	62.0	64.0	23.5	452	231	211	1/2"
<b>DT 4.25 K</b>	+1.0	1.10 <sup>3)</sup>	1.30	65.0	67.0	36.5	545	328	290	3/4"
<b>DT 4.40 K</b>	+1.0	1.85 <sup>3)</sup>	2.20	67.0	70.0	46.0	625	328	290	3/4"
<b>KDT 3.60</b>	+0.5/+1.0/+1.5	2.2/2.2/3.0	2.6/2.6/3.6	≤72	≤74	84.0	747	353	328	1"
<b>KDT 3.80</b>	+0.5/+1.0/+1.5	2.2/3.0/4.0	2.6/3.6/4.8	≤74	≤76	113.5	863	353	328	1"
<b>KDT 3.100</b>	+0.5/+1.0/+1.5	4.0/5.5/5.5	4.8/6.6/6.6	≤76	≤78	135.5	967	470	362	1 1/2"
<b>KDT 3.140</b>	+0.5/+1.0/+1.5	5.5/7.5/7.5	6.6/9.0/9.0	≤82	≤84	146.0	953	470	362	1 1/2"
<b>DTLF 2.200</b>	+0.8/+1.5/+1.8	5.5/7.5/11.0	6.6/9.0/13.2	≤82	≤83	365.0	1363	644	527	2 1/2"
<b>DTLF 2.250</b>	+0.8/+1.5/+1.8	7.5/11.0/15.0	9.0/13.2/18.0	≤84	≤85	340.0	1300	644	557	2 1/2"
<b>DTLF 2.250 K</b>	+0.8/+1.5/+1.8	7.5/11.0/15.0	9.0/13.2/18.0	≤84	≤85	361.0	1300	708	527	2 1/2"
<b>DTLF 2.360</b>	+0.5/+0.9 (50 Hz)	11.0/15.0	–	≤84	–	286.0	1180	644	527	2 1/2"
<b>DTLF 2.400</b>	+0.9/+1.25/+1.8	11.0/15.0/18.5	13.2/18.0/22.0	≤80	≤82	480.0	1535	747	579	4"
<b>DTLF 2.500</b>	+0.8/+1.1/+1.5/+1.8	15.0/18.5/22.0/30.0	18.0/22.0/26.0/36.0	≤81	≤82	490.0	1535	747	579	4"
<b>KDT 3.80/0-400</b>	+1.5	4.0 <sup>4)</sup>		71.2		87.5	726	353	400	1"
<b>KDT 3.100/0-400</b>	+1.5	7.5 <sup>4)</sup>		76.0		149.0	927	472	455	1 1/2"
<b>KDT 3.140/0-400</b>	+1.5	7.5 <sup>4)</sup>		82.0		149.0	927	472	455	1 1/2"
<b>DTLF 2.250/0-400</b>	+1.7	11.0–22.0 <sup>4)</sup>		76.7		310.0	1293	646	684	2 1/2"
<b>DTLF 2.500/0-400</b>	+1.5	11.0–22.0 <sup>4)</sup>		80.6		490.0	1438	747	713	4"

**VARI AIR**  
UNIT



VARI AIR DTLF 2.500/0-400

<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±5%

<sup>2)</sup> Alternatively available as DC variant

<sup>3)</sup> Alternatively available as 1~ variant

<sup>4)</sup> Power of the VARI AIR frequency inverter

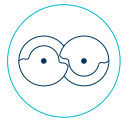
## VADS

### SCREW COMPRESSORS

- Non-contact compression
- Air-cooled
- Direct drive
- VARIAIR frequency inverter



VADS 1500+



	m <sup>3</sup> /h <sup>1)</sup>							
bar absolute	1.0	1.2	1.4	1.6	1.7	1.8	1.9	2.0
bar relative	0	+0.2	+0.4	+0.6	+0.7	+0.8	+0.9	+1.0
<b>VADS 1500+</b> 165 Hz	1230	1216	1205	1194	1188	1188	1017	847

	Technical data							Connection
	Frequency inverter	db(A)	kg	mm				
				Length	Width	Height		
<b>VADS 1500+</b>	45 kW • 400/480 V ±10% • 50/60 Hz	75/80 (80/165 Hz)	1200	1600	1468	1806	DN 150	



<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±5%

## BCP

### CLAW COMPRESSORS

- Non-contact compression
- Air-cooled
- Integrated suction filter
- Pulsation damper



BCP 150 PD



BCP 300 PD



	m <sup>3</sup> /h <sup>1)</sup>										
bar absolute	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0
bar relative	0	+0.2	+0.4	+0.6	+0.8	+1.0	+1.2	+1.4	+1.6	+1.8	+2.0
<b>BCP 100 PD</b>											
50 Hz	100	82	78	74	70	66	61	56	52	48	44
60 Hz	120	96	92	88	84	80	76	72	68	66	64
<b>BCP 150 PD</b>											
50 Hz	150	124	119	114	110	105	100	95	90	85	81
60 Hz	180	149	144	140	136	131	127	123	119	115	111
<b>BCP 300 PD</b>											
50 Hz	275	241	233	226	219	211	205	198	191	184	177
60 Hz	325	292	283	274	267	258	250	242	234	227	219

Technical data										
	max. bar rel. 50 & 60 Hz	kW 3~		db(A)		kg w/o motor	mm			Connection
		50 Hz	60 Hz	50 Hz	60 Hz		Length	Width	Height	
<b>BCP 100 PD</b>	+0.8/+1.3/+1.5/+2.0	3.0-7.5	3.0-7.5	≤83	≤85	≈130	1032	549	619	1 ½"
<b>BCP 150 PD</b>	+1.0/+1.3/+1.7/+2.0	5.5-11.0	5.5-13.2	≤85	≤87	≈143	1032	582	≈664	1 ½"
<b>BCP 300 PD</b>	+1.3/+1.6/+2.0	11.0-18.5	11.0-18.5	≤85	≤90	≈202	1130	628	≈716	2"

<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±10%

## SV

## SIDE CHANNEL BLOWERS

- Non-contact compression
- Single or double stage
- Air-cooled



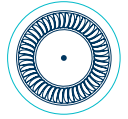
SV 130



SV 400



SV 1100



		m <sup>3</sup> /h <sup>1)</sup>											m <sup>3</sup> /h <sup>1)</sup>	
mbar absolute		1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	@ max.	
mbar relative		0	+50	+100	+150	+200	+250	+300	+350	+400	+450	+500	mbar (rel.)	
<b>Single stage</b>														
<b>SV 1.50/3</b>	50 Hz	41	22	3									3	+100
	60 Hz	48	30	8									8	+100
<b>SV 5.90/1</b>	50 Hz	76	48										22	+95
	60 Hz	87	61										50	+70
<b>SV 130/1</b>	50 Hz	130	104	81	60	37	26						14	+280
	60 Hz	160	134	115	94	76	58	42					42	+300
<b>SV 200/1</b>	50 Hz	180	138	106	80	52							37	+225
	60 Hz	230	182	149	122	97							86	+220
<b>SV 201/1</b>	50 Hz	190	158	132	110	90	73	57					45	+340
	60 Hz	230	199	173	150	129	111	94					85	+330
<b>SV 300/1</b>	50 Hz	325	287	251	218	186	158	133	110				102	+370
	60 Hz	390	357	324	293	262	233	203					181	+340
<b>SV 400/1</b>	50 Hz	390	354	319	285	253	222	193	165	140			127	+425
	60 Hz	470	435	399	365	332	301	272	244	218			213	+410
<b>SV 500/1</b>	50 Hz	510	470	431	395	361	327	300	269	242			225	+435
	60 Hz	610	572	541	507	474	441	408	375	341			337	+405
<b>SV 700/1</b>	50 Hz	750	687	628	577	527	477	427	375	324			324	+400
	60 Hz	900	833	775	720	668	616	564	509	455			455	+400
<b>SV 1100/1</b>	50 Hz	1050	978	912	845	780	815	652	588				539	+390
	60 Hz	1250	1176	1108	1039	972	905	840	775				775	+350
<b>Double stage</b>														
<b>SV 5.90/2</b>	50 Hz	43	31	21	12	4							0.3	+220
	60 Hz	52	42	33	24	15							10	+225
<b>SV 130/2</b>	50 Hz	70	58	49	42	34	28	23	19	14			14	+400
	60 Hz	85	76	67	60	52	44	40	34				30	+390
<b>SV 200/2</b>	50 Hz	90	74	62	52	45	37	30	21	13			11	+410
	60 Hz	110	96	83	73	64	56	49	42	35			30	+430
<b>SV 201/2</b>	50 Hz	90	83	74	66	59	52	45	39	33			31	+420
	60 Hz	110	102	94	87	79	72	66	60	54			54	+400
<b>SV 300/2</b>	50 Hz	160	145	133	122	111	100	90	80	70	61		50	+515
	60 Hz	190	177	166	155	145	135	125	116	107	90		90	+450
<b>SV 400/2</b>	50 Hz	195	181	168	156	143	132	121	111	101	93	84	80	+530
	60 Hz	235	223	211	200	190	179	169	160	151	142	134	134	+500
<b>SV 500/2</b>	50 Hz	260	238	219	202	186	172	157	144	131	120		113	+480
	60 Hz	305	290	273	258	244	231	217	209	195	184	172	165	+530
<b>SV 700/2</b>	50 Hz	375	355	335	316	298	281	265	250	236	223	211	211	+500
	60 Hz	435	416	397	380	363	348	333	319	306	293		293	+450
<b>SV 1100/2</b>	50 Hz	510	489	470	451	432	413	394	375	357	340		326	+490
	60 Hz	605	584	565	548	532	515	499	483	465			462	+410

<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±10%

Technical data													
	max. mbar relative		kW 3~		kW 1~		db(A)		kg	mm			Connection
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		Length	Width	Height	
<b>Single stage</b>													
<b>SV 1.50/3</b>	+100	+100	0.18	0.21	0.15		62.0	63.0	8.0	225	220	235	1"
<b>SV 5.90/1</b>	+95	+70	0.37	0.44	0.37	0.44	63.0	64.0	13.0	262	232	306-311	1 ¼"
<b>SV 130/1</b>	+75	+60	0.55	0.66	0.55	0.66	61.2	64.0	21.0	380.5			
	+125	+110	0.75	0.9	0.75	0.9	61.2	64.0	22.0	384-400			
	+210	+195	1.1	1.29	1.1	1.3	63.9	64.7	22.5	387-423	264	309	1 ½"
	+240	+235	1.25	1.5			64.2	65.3	24.5	423			
	+280	+300	1.5	1.8	1.5	1.8	64.2	65.3	26.0	423-427			
<b>SV 200/1</b>	+145	+130	1.1	1.29	1.1	1.3	64.6	68.2	25.5	421	306	357	2"
	+225	+220	1.5	1.8	1.5	1.8	64.6	68.2	28.5	431			
<b>SV 201/1</b>	+135	+120	1.1	1.29	1.1	1.3	63.9	68.0	25.5	421			
	+210	+200	1.5	1.8	1.5	1.8	65.0	68.0	28.5	431	306	357	2"
	+340	+330	2.2	2.65			68.3		32.5	452			
<b>SV 300/1</b>	+165	+140	2.2	2.65			66.9	68.9	40.0	469			
	+250	+230	3.0	3.6			71.1	69.4	42.5	494	370	426	2 ½"
	+370	+340	4.0	4.8			72.8	73.4	54.5	538			
<b>SV 400/1</b>	+200	+180	3.0	3.6			71.6	74.2	52.5	489			
	+290	+270	4.0	4.8			71.6	74.2	53.0	502	390	454	3"
	+425	+410	5.5	6.6			76.8	76.1	54.5	536			
<b>SV 500/1</b>	+190	+175	4.0	4.8			71.6	74.1	≤61.5	496			
	+295	+275	5.5	6.6			71.6	74.1	66.5	530	474	523	3"
	+435	+405	7.5	9.0			75.4	77.4	75.5	600			
<b>SV 700/1</b>	+185	+150	5.5	6.6			71.0	72.0	89.0	572			
	+285	+250	7.5	9.0			72.0	74.0	112.0	614	496	596	4"
	+400	+400	11.0	13.2			73.0	75.0	119.0	635			
<b>SV 1100/1</b>	+140	+110	7.5	9.0			74.0	76.0	118.0	622			
	+260	+220	11.0	13.2			74.0	76.0	125.0	643	525	611	4"
	+390	+350	15.0	18.0			76.0	79.0	157.0	680			
<b>Double stage</b>													
<b>SV 5.90/2</b>	+220	+225	0.37	0.44	0.37	0.44	62.0	64.0	13.0	265	245	306-311	1 ¼"
<b>SV 130/2</b>	+160	+140	0.55	0.66	0.55	0.66	59.9	59.4	21.5	385.5			
	+250	+230	0.75	0.9	0.75	0.9	60.4	60.0	22.5	385.5-400	264	309	1 ½"
	+400	+390	1.1	1.29	1.1	1.3	59.8	62.7	23.0	387-423			
<b>SV 200/2</b>	+300	+260	1.1	1.29	1.1	1.3	64.5	67.6	25.5	426	306	357	2"
	+410	+430	1.5	1.8	1.5	1.8	64.5	67.6	28.5	431			
<b>SV 201/2</b>	+260	+230	1.1	1.29	1.1	1.3	66.9	70.0	25.5	426	306	357	2"
	+420	+400	1.5	1.8	1.5	1.8	66.9	70.0	28.5	431			
<b>SV 300/2</b>	+330	+280	2.2	2.65			68.3	68.5	40.5	469			
	+515	+450	3.0	3.6			71.7	74.5	43.0	494	370	426	2 ½"
<b>SV 400/2</b>	+390	+350	3.0	3.6			73.1	75.1	53.5	489	390	454	3"
	+530	+500	4.0	4.8			73.1	75.1	54.0	502			
<b>SV 500/2</b>	+370	+340	4.0	4.8			69.9	71.6	≤62.5	496	474	523	3"
	+480	+530	5.5	6.6			69.8	72.2	67.5	530			
<b>SV 700/2</b>	+330	+250	5.5	6.6			68.0	69.0	89.0	572	496	596	4"
	+500	+450	7.5	9.0			70.0	73.0	112.0	614			
<b>SV 1100/2</b>	+250	+160	7.5	9.0			70.0	75.0	118.0	622	525	611	4"
	+490	+410	11.0	13.2			72.0	82.0	125.0	643			

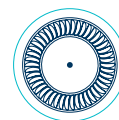
## VARIAIR SV • VARIAIR Speed Flow

### SIDE CHANNEL BLOWERS

- Non-contact compression
- Single or double stage
- Air-cooled
- VARIAIR frequency inverter



VARIAIR SV 300

VASF 2.120 AC <sup>21</sup>

		m <sup>3</sup> /h <sup>1)</sup>												m <sup>3</sup> /h <sup>1)</sup>	
mbar absolute		1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	@ max.	
mbar relative		0	+50	+100	+150	+200	+250	+300	+350	+400	+450	+500	+550	mbar (rel.)	
<b>Single stage</b>															
<b>VARIAIR SV 130/1</b>	100 Hz	285	265	246	226	207	188	170	151	103				95	+405
<b>VARIAIR SV 201/1</b>	100 Hz	350	335	314	293	273	222	137						40	+340
<b>VARIAIR SV 300/1</b>	87 Hz	560	517	488	420	333	126							76	+255
<b>VARIAIR SV 300/1</b>	100 Hz	640	634	605	578	538	450	324	160					158	+355
<b>VARIAIR SV 400/1</b>	100 Hz	865	818	785	752	720	641	522	357					215	+380
<b>VARIAIR SV 500/1</b>	100 Hz	1000	985	956	925	892	858	824	790	759	678	602		514	+530
<b>VARIAIR SV 700/1</b>	80 Hz	1180	1127	1077	1028	978	926	870	731	443				391	+410
<b>VASF 2.50/1</b>	300 Hz	48	43	40	37.5	35.5	32							0.1	+290 AC +280 DC
<b>VASF 2.80/1</b>	250 Hz	90	80	74	71	67	59							0.1	+280 AC +290 DC
<b>VASF 2.120/1</b>	200 Hz	143	124	117	112	94								0.1	+230 AC
<b>Double stage</b>															
<b>VARIAIR SV 130/2</b>	100 Hz	140	132	126	119	113	107	101	96	91	85	81	76	76	+550
<b>VARIAIR SV 201/2</b>	100 Hz	175	169	163	158	152	147	142	137	130	116	100	81	75	+560
<b>VARIAIR SV 300/2</b>	100 Hz	300	296	289	281	274	267	260	251	234	212	184	149	133	+570
<b>VASF 2.50/2</b>	300 Hz	24	22	21	19.5	18.5	17.5	17	16	15	14.5	13.5	2.7	0.1	+560 AC
<b>VASF 2.80/2</b>	250 Hz	45	41	38	36	34	33	31	30	29	27	17	5	0.1	+570 AC +570 DC
<b>VASF 2.120/2</b>	200 Hz	71	65	60	57	54	52	51	49	46	11			0.1	+460 AC

Technical data								
	Frequency inverter	db(A)	kg	mm			Connection	
				Length	Width	Height		
<b>VARIAIR SV 130/X</b>	4.0 kW • 400/480 V ±10% • 50/60 Hz	71.0	30.5	424	264	380	1 ½"	
<b>VARIAIR SV 201/X</b>	4.0 kW • 400/480 V ±10% • 50/60 Hz	77.7	32.0	428	306	407	2"	
<b>VARIAIR SV 300/1</b> 87 Hz	4.0 kW • 400/480 V ±10% • 50/60 Hz	69.6	46.0	493	370	456	2 ½"	
<b>VARIAIR SV 300/X</b> 100 Hz	7.5 kW • 400/480 V ±10% • 50/60 Hz	72/75	49.5	512	370	499	2 ½"	
<b>VARIAIR SV 400/1</b>	11–22 kW • 400/480 V ±10% • 50/60 Hz	77.8	75.0	572	390	592	3"	
<b>VARIAIR SV 500/1</b>	11–22 kW • 400/480 V ±10% • 50/60 Hz	80.9	97.5	599	474	625	3"	
<b>VARIAIR SV 700/1</b>	11–22 kW • 400/480 V ±10% • 50/60 Hz	75.1	120.0	633	496	682	4"	
<b>VASF 2.50/X</b>	0.65 kW • AC~ • 200 V -10% ... 230 V +10% • 50/60 Hz	61.0	12.3		176	257		
	0.60 kW • AC~ • 100 V -10% ... 115 V +10% • 50/60 Hz	61.0	12.3	353	176	257	1"	
	0.75–0.77 kW • DC~ • 24 V ±20%	65.0	11.5		173	233		
<b>VASF 2.80/X</b>	1.1 kW • AC~ • 200 V -10% ... 230 V +10% • 50/60 Hz	61.0	15.0		176	291		
	1.1 kW • DC~ • 48 V ±20%	65.0	14.7	391	173	268	1 ¼"	
<b>VASF 2.120/X</b>	1.4 kW • AC~ • 200 V -10% ... 230 V +10% • 50/60 Hz	63.0	18.8	432	200	320	1 ½"	

<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±10%

<sup>2)</sup> Optionally with integrated VARIAIR frequency inverter, fan and silencers

## VARIAIR RV • VATP

### RADIAL BLOWERS

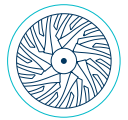
- Non-contact compression
- Air-cooled
- VARIAIR RV with external VARIAIR frequency inverter
- VATP (VARIAIR Turbo Package) consisting of RV 2.1944/10, VARIAIR frequency inverter, intake filter and sound enclosure



RV 2.1944/10



VATP 1600



		m <sup>3</sup> /h <sup>1)</sup>									
mbar absolute		1000	1050	1100	1150	1200	1250	1300	1350	1400	1410
mbar relative		0	+50	+100	+150	+200	+250	+300	+350	+400	+410
<b>RV 2.1944/10</b>	400 Hz	1570	1570	1470	1344	1219	1094	968	843	577	455
<b>VATP 1600</b>	400 Hz	1570	1570	1470	1344	1219	1094	869	843	577	455

Technical data									
	Frequency inverter	db(A)	kg	mm			Connection		
				Length	Width	Height			
<b>RV 2.1944/10</b>	11–22 kW <sup>2)</sup> • 400/480 V ±10% • 50/60 Hz	75	81	550 <sup>3)</sup>	450 <sup>3)</sup>	520 <sup>3)</sup>	Ø150 mm		
<b>VATP 1600</b>	11–22 kW • 400/480 V ±10% • 50/60 Hz	64	162	814	574	1134	<sup>4)</sup>		

<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±5%  
<sup>2)</sup> Alternatively available as 7.5 kW version (see pump data sheet)  
<sup>3)</sup> Without frequency inverter  
<sup>4)</sup> Flange for hose connector

## T • DVT

### ROTARY VANE PRESSURE/VACUUM PUMPS

- Oil-free
- Air-cooled
- Integrated suction filter
- Pressure and vacuum regulating valve



T 4.40 DSK



DVT 3.100



		m <sup>3</sup> /h – Suction   Blast air rate <sup>1)</sup>					
bar relative		50 Hz			60 Hz		
		0 bar	-0.25 bar	-0.50 bar	0 bar	-0.25 bar	-0.50 bar
<b>T 4.10 DV</b>	+0.25 bar	9.5   9.5	7.1   7.1	4.1   4.1	11.7   11.7	8.2   8.2	4.9   4.9
	+0.50 bar	9.4   9.4	6.4   6.4	3.6   3.6	11.0   11.0	7.0   7.0	4.5   4.5
<b>T 4.16 DV</b>	+0.25 bar	15.5   15.5	11.1   11.1	6.5   6.5	18.1   18.1	13.3   13.3	8.0   8.0
	+0.50 bar	15.0   15.0	10.1   10.1	6.0   6.0	17.9   17.9	12.3   12.3	7.3   7.3
<b>T 4.25 DV</b>	+0.25 bar	23.6   23.6	16.5   16.5	9.2   9.2	28.3   28.3	20.0   20.0	11.4   11.4
	+0.50 bar	22.1   22.1	15.0   15.0	7.8   7.8	26.9   26.9	18.4   18.4	10.2   10.2
<b>T 4.40 DV</b>	+0.25 bar	35.9   35.9	25.8   25.8	14.9   14.9	42.5   42.5	30.4   30.4	16.5   16.5
	+0.50 bar	34.2   34.2	24.0   24.0	13.5   13.5	41.1   41.1	29.3   29.3	13.5   13.5
bar relative		50 Hz			60 Hz		
		0 bar	-0.50 bar	-0.60 bar	0 bar	-0.50 bar	-0.60 bar
<b>T 4.25 DSK</b>	+0.50 bar	23.4   24.9	9.9   18.2	7.1   16.9	28.5   30.7	12.3   21.5	9.1   19.6
	+0.60 bar	23.0   24.5	9.7   17.8	7.0   16.5	28.3   30.5	12.2   21.3	9.0   19.4
<b>T 4.40 DSK</b>	+0.50 bar	34.5   33.9	13.4   23.1	9.9   20.0	42.1   41.9	17.0   27.2	12.7   23.8
	+0.60 bar	34.1   33.4	13.2   22.7	9.7   19.2	41.1   41.1	16.4   26.5	12.0   23.0
<b>DVT 3.60</b>	+0.50 bar	55.2   56.9	22.2   37.4	16.2   32.9	65.0   68.3	27.0   43.5	21.0   38.7
	+0.60 bar	54.6   56.2	21.9   37.0	15.7   32.4	63.8   67.1	27.2   43.3	20.6   38.1
<b>DVT 3.80</b>	+0.50 bar	63.9   65.9	25.0   47.1	18.1   43.0	76.5   81.4	31.9   56.8	23.4   50.6
	+0.60 bar	63.0   64.8	24.7   46.8	17.5   42.3	76.0   80.6	31.6   56.0	23.5   50.2
<b>DVT 3.100</b>	+0.50 bar	95.6   98.0	40.2   66.9	29.7   58.8	113.7   119.0	50.0   78.2	37.6   67.8
	+0.60 bar	96.1   98.5	39.9   66.6	29.9   58.8	112.7   117.8	49.3   77.7	37.6   67.9
<b>DVT 3.140</b>	+0.50 bar	126.0   138.0	55.0   91.0	41.0   80.0	149.0   163.0	66.5   104.0	50.0   91.0
	+0.60 bar	126.0   138.0	51.0   89.0	38.0   78.0	148.0   162.0	66.0   103.0	50.0   90.0

Technical data													
	max. bar relative		kW 3~		kW 1~		db(A)		kg	mm			Connection
	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz		Length	Width	Height	
<b>T 4.10 DV</b>	±0.5	±0.5	0.37	0.45	0.37	0.44	55	58	16.0	429	207	194	½"
<b>T 4.16 DV</b>	±0.5	±0.5	0.55	0.70	0.55	0.66	61	63	24.0	452	231	211	½"
<b>T 4.25 DV</b>	±0.5	±0.5	0.75	0.90	0.80	1.10	69	69	26.0	505	260	290	¾"
<b>T 4.40 DV</b>	±0.5	±0.5	1.25	1.50			66	68	38.5	572	280	290	¾"
<b>T 4.25 DSK</b>	±0.6	±0.6	1.10	1.30	1.10		69	69	35.0	545	328	290	¾"
<b>T 4.40 DSK</b>	±0.6	±0.6	1.85	2.20			68	68	46.0	625	328	290	¾"
<b>DVT 3.60</b>	±0.5/±0.6	±0.5/±0.6	2.2/3.0	2.6/3.6			≤75	≤76	84.0	≤747	353	328	1"
<b>DVT 3.80</b>	±0.5/±0.6	±0.5/±0.6	4.0/4.0	4.8/4.8			≤76	≤77	113.5	≤863	353	328	1"
<b>DVT 3.100</b>	±0.5/±0.6	±0.5/±0.6	5.5/5.5	6.6/6.6			≤77	≤78	134.5	≤951	470	336	1 ½"
<b>DVT 3.140</b>	±0.5/±0.6	±0.5/±0.6	7.5/7.5	9.0/9.0			≤78	≤79	146.0	≤953	470	336	1 ½"

<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±5%

**PS**

**ROOTS BOOSTER PACKAGES (PUMPING STATIONS)**

- Consisting of an oil-lubricated rotary vane vacuum pump and a booster pump (roots) with integrated bypass as a backup for packaging processes with quick cycling times for high operational reliability and availability



PS 200/500

	Nominal air flow refers to intake pressure <sup>1)</sup>		Vacuum	
	m <sup>3</sup> /h		mbar absolute	
	50 Hz	60 Hz	50 Hz	60 Hz
<b>PS 200/500</b>	500	600	< 0.1	< 0.1
<b>PS 300/500</b>	500	600	< 0.1	< 0.1
<b>PS 300/1000</b>	1000	1200	< 0.1	< 0.1
<b>PS 630/2000</b>	2000	2400	< 0.1	< 0.1

	Technical data										
	RBP	kW 3~		U 5 / U 4	kW 3~		kg Σ	Length	mm		Connection
		50 Hz	60 Hz		50 Hz	60 Hz			Width	Height	
<b>PS 200/500</b>	RBP 500	2.2–3.0	2.2–3.0	U 5.201	4.0	4.8	≈330	958	704	1090	DN100
<b>PS 300/500</b>	RBP 500	2.2–3.0	2.2–3.0	U 5.301	5.5	6.6	≈380	1022	704	1090	DN100
<b>PS 300/1000</b>	RBP 1000	4.0–5.5	4.0–5.5	U 5.301	5.5	6.6	≈480	1134	704	1122	DN100
<b>PS 630/2000</b>	RBP 2000	5.5–7.5	5.5–7.5	U 4.630	15.0	18.5	≈1100	1539	875	1497	DN150



<sup>1)</sup> Reference (atmosphere): 1000 mbar, 20°C / tolerance: ±5%

**D1 • D2 • D3 • L1 • L2 • L3**

**VACUUM SYSTEMS**

- 1, 2 or 3 rotary vane vacuum pumps
- Dry-running (D) or oil-lubricated (L)
- D1, D2, L1 and L2 with electrical cabinet 34D
- D3 and L3 with electric cabinet VARIAIR Controller+ (VC+)
- Vacuum vessel, condensate drain and suction filter



D2-250/1000-34D



Systems with dry-running rotary vane vacuum pumps							Technical data per pump 50/60 Hz		
	Pumps	Vessel [l]	Filter	Length [mm]	Width [mm]	Height [mm]	m <sup>3</sup> /h	mbar abs.	kW
<b>One pump on vacuum vessel</b>									
<b>D1-016/0090-34D</b>	1x VT 4.16	90	F 35	1149	681	1049	16/19	150/150	0.55/0.70
<b>D1-016X/0090-34D</b>	1x VX 4.16	90	F 35	1149	681	1049	16/19	100/100	0.55/0.70
<b>D1-025/0090-34D</b>	1x VT 4.25	90	F 35	1149	673	1049	25/40	150/150	0.75/0.90
<b>D1-025X/0090-34D</b>	1x VX 4.25	90	F 35	1149	673	1049	25/40	100/100	0.75/0.90
<b>D1-040/0090-34D</b>	1x VT 4.40	90	F 35	1149	673	1049	40/48	150/150	1.25/1.50
<b>D1-040X/0090-34D</b>	1x VX 4.40	90	F 35	1149	673	1049	40/48	100/100	1.25/1.50
<b>D1-060/0250-34D</b>	1x KVT 3.60	250	F 110	1825	875	1242	55/66	100/100	2.4/3.0
<b>D1-060X/0250-34D</b>	1x K VX 3.60	250	F 110	1825	875	1242	55/66	100/100	2.4/3.0
<b>D1-080/0250-34D</b>	1x KVT 3.80	250	F 110	1825	875	1242	67/78.5	100/100	2.4/3.0
<b>D1-080X/0250-34D</b>	1x K VX 3.80	250	F 110	1825	875	1242	67/78.5	100/100	2.4/3.0
<b>D1-100/0250-34D</b>	1x KVT 3.100	250	F 110	1825	869	1242	98/112	100/100	3.0/3.6
<b>D1-100X/0250-34D</b>	1x K VX 3.100	250	F 110	1825	869	1242	98/112	100/100	3.0/3.6
<b>D1-140/0250-34D</b>	1x KVT 3.140	250	F 110	1845	876	1246	129/154	100/200	4.0/4.8
<b>D1-140X/0250-34D</b>	1x K VX 3.140	250	F 110	1845	876	1246	129/154	100/200	4.0/4.8
<b>D1-250/0500-34D</b>	1x VTLF 2.250	500	F 110	1994	1005	1415	244/276	200/200	5.5/6.6
<b>D1-250X/0500-34D</b>	1x V XLF 2.250	500	F 110	1994	1005	1415	244/276	200/200	5.5/6.6
<b>Two pumps on vacuum vessel</b>									
<b>D2-016/0090-34D</b>	2x VT 4.16	90	F 35	1075	753	1049	16/19	150/150	0.55/0.70
<b>D2-016X/0090-34D</b>	2x VX 4.16	90	F 35	1075	753	1049	16/19	100/100	0.55/0.70
<b>D2-025/0090-34D</b>	2x VT 4.25	90	F 35	1075	753	1049	25/40	150/150	0.75/0.90
<b>D2-025X/0090-34D</b>	2x VX 4.25	90	F 35	1075	753	1049	25/40	100/100	0.75/0.90
<b>D2-040/0250-34D</b>	2x VT 4.40	250	F 110	1825	871	1242	40/48	150/150	1.25/1.50
<b>D2-040X/0250-34D</b>	2x VX 4.40	250	F 110	1825	871	1242	40/48	100/100	1.25/1.50
<b>D2-060/0250-34D</b>	2x KVT 3.60	250	F 110	1825	994	1242	55/66	100/100	2.4/3.0
<b>D2-060X/0250-34D</b>	2x K VX 3.60	250	F 110	1825	994	1242	55/66	100/100	2.4/3.0
<b>D2-080/0500-34D</b>	2x KVT 3.80	500	F 110	1995	971	1315	67/78.5	100/100	2.4/3.0
<b>D2-080X/0500-34D</b>	2x K VX 3.80	500	F 110	1995	971	1315	67/78.5	100/100	2.4/3.0
<b>D2-100/0500-34D</b>	2x KVT 3.100	500	F 110	1995	1093	1315	98/112	100/100	3.0/3.6
<b>D2-100X/0500-34D</b>	2x K VX 3.100	500	F 110	1995	1093	1315	98/112	100/100	3.0/3.6
<b>D2-140/0500-34D</b>	2x KVT 3.140	500	F 110	1995	1093	1315	129/154	100/200	4.0/4.8
<b>D2-140X/0500-34D</b>	2x K VX 3.140	500	F 110	1995	1093	1315	129/154	100/200	4.0/4.8
<b>D2-250/0750-34D</b>	2x VTLF 2.250	750	FV 250	2200	1408	1717	244/276	200/200	5.5/6.6
<b>D2-250X/0750-34D</b>	2x V XLF 2.250	750	FV 250	2200	1408	1717	244/276	200/200	5.5/6.6
<b>D2-250/1000-34D</b>	2x VTLF 2.250	1000	FV 250	2331	1433	1775	244/276	200/200	5.5/6.6
<b>D2-250X/1000-34D</b>	2x V XLF 2.250	1000	FV 250	2331	1433	1775	244/276	200/200	5.5/6.6
<b>Three pumps on vacuum vessel</b>									
<b>D3-025/0250-VC+</b>	3x VT 4.25	250	F 110	1895	904	1502	25/30	150/150	0.75/0.9
<b>D3-025X/0250-VC+</b>	3x VX 4.25	250	F 110	1895	904	1502	25/30	100/100	0.75/0.9
<b>D3-040/0250-VC+</b>	3x VT 4.40	250	F 110	1870	904	1502	40/48	150/150	1.25/1.5
<b>D3-040X/0250-VC+</b>	3x VX 4.40	250	F 110	1870	904	1502	40/48	100/100	1.25/1.5
<b>D3-060/0500-VC+</b>	3x KVT 3.60	500	F 110	2250	1043	1579	55/66	100/100	2.4/3.0
<b>D3-060X/0500-VC+</b>	3x K VX 3.60	500	F 110	2250	1043	1579	55/66	100/100	2.4/3.0
<b>D3-080/0500-VC+</b>	3x KVT 3.80	500	F 110	2250	1043	1579	67/78.5	100/100	2.4/3.0
<b>D3-080X/0500-VC+</b>	3x K VX 3.80	500	F 110	2250	1043	1579	67/78.5	100/100	2.4/3.0



L1-5.201/0500-34D



L3-5.101/0750-VC+

Systems with dry-running rotary vane vacuum pumps							Technical data per pump 50/60 Hz		
	Pumps	Vessel [l]	Filter	Length [mm]	Width [mm]	Height [mm]	m <sup>3</sup> /h	mbar abs.	kW
<b>Three pumps on vacuum vessel</b>									
<b>D3-100/0750-VC+</b>	3x KVT 3.100	750	FV 250	2435	1210	1679	98/112	100/100	3.0/3.6
<b>D3-100X/0750-VC+</b>	3x K VX 3.100	750	FV 250	2435	1210	1679	98/112	100/100	3.0/3.6
<b>D3-140/0750-VC+</b>	3x KVT 3.140	750	FV 250	2409	1210	1679	129/154	100/200	4.0/4.8
<b>D3-140X/0750-VC+</b>	3x K VX 3.140	750	FV 250	2409	1210	1679	129/154	100/200	4.0/4.8

Systems with oil-lubricated rotary vane vacuum pumps							Technical data per pump 50/60 Hz		
	Pumps	Vessel [l]	Filter	Length [mm]	Width [mm]	Height [mm]	m <sup>3</sup> /h	mbar abs.	kW
<b>One pump on vacuum vessel</b>									
<b>L1-5.21/0090-34D</b>	1x O 5.21	90	F 35	1149	706	1050	18/21	<1.0/<1.5	0.55/0.66
<b>L1-5.40/0090-34D</b>	1x U 5.40	90	F 35	1149	706	1050	41/48	0.5/0.5	1.5/1.8
<b>L1-5.71/0250-34D</b>	1x U 5.71	250	F 110	1845	876	1246	70/84	<0.1-400	1.5/1.8
<b>L1-5.101/0250-34D</b>	1x U 5.101	250	F 110	1825	869	1246	100/120	<0.1-400	2.2/2.6
<b>L1-5.166/0250-34D</b>	1x U 5.166	250	F 110	1825	876	1246	165/198	<0.1-400	4.0/4.8
<b>L1-5.201/0500-34D</b>	1x U 5.201	500	F 110	2014	968	1415	200/240	<0.1-400	5.5/6.6
<b>L1-5.301/0750-34D</b>	1x U 5.301	750	FV 250	2199	1132	1533	300/360	<0.1-400	7.5/9.0
<b>Two pumps on vacuum vessel</b>									
<b>L2-5.21/0090-34D</b>	2x O 5.21	90	F 35	1149	707	1049	18/21	<1.0/<1.5	0.55/0.66
<b>L2-5.40/0250-34D</b>	2x U 5.40	250	F 110	1825	869	1242	41/48	0.5/0.5	1.5/1.8
<b>L2-5.71/0250-34D</b>	2x U 5.71	250	F 110	1825	869	1242	70/84	<0.1-400	1.5/1.8
<b>L2-5.101/0250-34D</b>	2x U 5.101	250	F 110	1825	871	1242	100/120	<0.1-400	2.2/2.6
<b>L2-5.71/0500-34D</b>	2x U 5.71	500	F 110	1825	969	1315	70/84	<0.1-400	1.5/1.8
<b>L2-5.101/0500-34D</b>	2x U 5.101	500	F 110	1825	969	1315	100/120	<0.1-400	2.2/2.6
<b>L2-5.166/0750-34D</b>	2x U 5.166	750	FV 250	2200	1131	1533	165/198	<0.1-400	4.0/4.8
<b>L2-5.201/0750-34D</b>	2x U 5.201	750	FV 250	2200	1131	1693	200/240	<0.1-400	5.5/6.6
<b>L2-5.301/0750-34D</b>	2x U 5.301	750	FV 250	2200	1512	1693	300/360	<0.1-400	7.5/9.0
<b>L2-5.166/1000-34D</b>	2x U 5.166	1000	FV 250	2335	1156	1515	165/198	<0.1-400	4.0/4.8
<b>L2-5.201/1000-34D</b>	2x U 5.201	1000	FV 250	2335	1156	1775	200/240	<0.1-400	5.5/6.6
<b>L2-5.301/1000-34D</b>	2x U 5.301	1000	FV 250	2335	1537	1775	300/360	<0.1-400	7.5/9.0
<b>Three pumps on vacuum vessel</b>									
<b>L3-5.21/0250-VC+</b>	3x O 5.21	250	F 110	1870	900	1502	18/21	<1.0/<1.0	0.55/0.66
<b>L3-5.40/0250-VC+</b>	3x U 5.40	250	F 110	1870	900	1502	41/48	0.5/0.5	1.5/1.8
<b>L3-5.71/0500-VC+</b>	3x U 5.71	500	F 110	2040	976	1575	70/84	<0.1-400	1.5/1.8
<b>L3-5.101/0500-VC+</b>	3x U 5.101	500	F 110	2040	976	1575	100/120	<0.1-400	2.2/2.6
<b>L3-5.71/0750-VC+</b>	3x U 5.71	750	FV 250	2245	1127	1693	70/84	<0.1-400	1.5/1.8
<b>L3-5.101/0750-VC+</b>	3x U 5.101	750	FV 250	2224	1127	1693	100/120	<0.1-400	2.2/2.6
<b>L3-5.166/1000-VC+</b>	3x U 5.166	1000	FV 250	2525	1156	1619	165/198	<0.1-400	4.0/4.8
<b>L3-5.201/1000-VC+</b>	3x U 5.201	1000	FV 250	2406	1152	2015	200/240	<0.1-400	5.5/6.6
<b>L3-5.301/1000-VC+</b>	3x U 5.301	1000	FV 250	2411	1531	2015	300/360	<0.1-400	7.5/9.0
<b>L3-5.166/1500-VC+</b>	3x U 5.166	1500	FV 540	2782	1120	2060	165/198	<0.1-400	4.0/4.8
<b>L3-5.201/1500-VC+</b>	3x U 5.201	1500	FV 540	2782	1121	2300	200/240	<0.1-400	5.5/6.6
<b>L3-5.301/1500-VC+</b>	3x U 5.301	1500	FV 540	2782	1505	2300	300/360	<0.1-400	7.5/9.0

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