

## TYPE "T" ROOTS BLOWERS

### Products features

Type "T" blower is designed for higher pressure environment (up to 1.5 bar and large size) with better durability and easy assembling and disassembling.

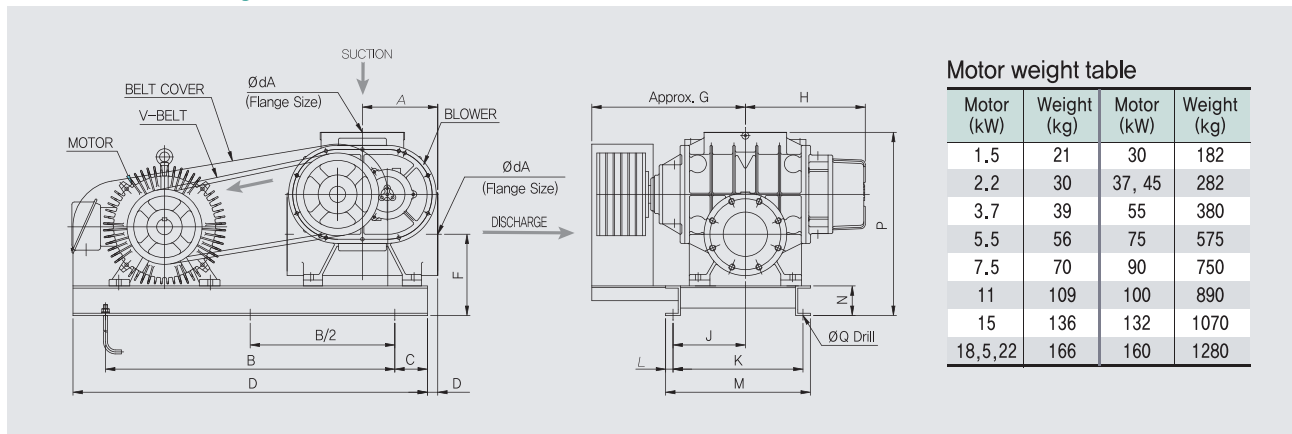
- **Casing** : It is made of cast iron and designed to have better performance and reduce the noise having airflow direction from the top to both bottom side. Inlet/discharge flange standard is KS 10K,FF
- **Rotor** : It is made of cast iron with spur or helical types of three lobes and designed to have corrosion resistancy, durability and thermal resistancy as well as low noise and high performance.
- **Side cover** : It not only holds the bearing but also discharges compressed air from the shaft to outside with blocking inward flow. It also has the structure to provide the machine with cooling water to protect the bearing.
- **Shaft** : It is made of SM45C(Carbon steel) with precision process and has shrinkage fitting structure with impeller.
- **Timing gear** : It is made of SCM415(Nickel chromium steel) with grade 1 spur/helical gear which provides constant power and lower friction noise.

### Features in design structure

1. "T" direction air flow
2. Design for high pressure operating environment
3. Grade 1 precision gear
4. Ball bearing or roller bearing
5. Lip type oil seal
6. Three lobes rotor with spur or helical type
7. Maximized durability
8. High volumetric efficiency



### Outline drawing



Motor weight table

Motor (kW)	Weight (kg)	Motor (kW)	Weight (kg)
1.5	21	30	182
2.2	30	37, 45	282
3.7	39	55	380
5.5	56	75	575
7.5	70	90	750
11	109	100	890
15	136	132	1070
18,5,22	166	160	1280

(unit : mm)

TYPE	DIM	ØdA	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	Approx. Weight(kg)
ST/HT080		80A,FLG	190	600	150	900	20	220	350	240	135	360	20	400	75	450	4-ø18	158
ST/HT100		100A,FLG	190	600	150	900	20	230	375	265	170	400	20	440	75	475	4-ø18	169
ST/HT125		125A,FLG	255	800	200	1200	55	275	430	325	195	440	25	490	100	595	4-ø18	316
ST/HT150		150A,FLG	255	800	200	1200	55	275	530	405	235	440	25	490	100	620	4-ø18	373
ST/HT200		200A,FLG	355	1050	250	1550	55	320	650	480	270	640	30	700	125	750	4-ø23	717
ST/HT250		250A,FLG	470	1400	200	1800	120	385	800	570	405	730	35	800	150	990	4-ø23	1351
ST/HT300		300A,FLG	520	1600	200	2000	65	480	860	670	390	760	40	840	200	1150	4-ø23	1704
ST/HT350		350A,FLG	695	2200	200	2600	130	490	920	790	450	920	40	1000	200	1280	4-ø23	3885
ST/HT400		400A,FLG	750	2500	250	3000	80	550	1000	860	580	1210	45	1300	250	1440	4-ø23	4940
ST/HT500		500A,FLG	750	2500	250	3000	80	600	1250	950	620	1310	45	1400	250	1440	4-ø23	5950

- Weight in the table excludes motor weight.
- Size may change without prior notice for performance improvement.
- Piping in the both side of side cover is needed when applying water cooling.
- Same drawing is applied to both positive displacement and vacuum purpose and appropriate accessory is needed depending on application.

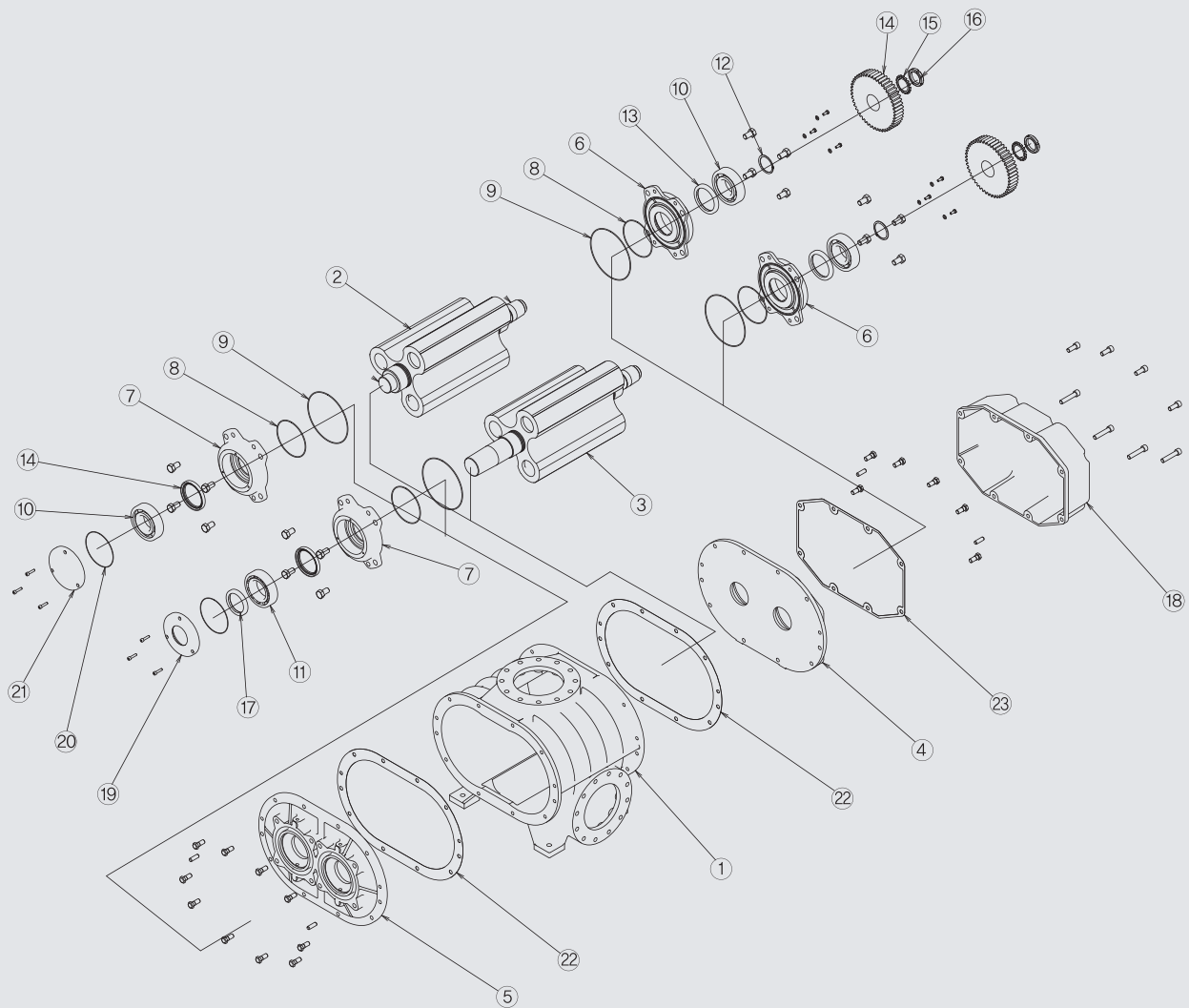
## Performance Table of Positive Displacement Blower

BORE SIZE (mm)	SPEED (rpm)	Suction air volume Qs[m <sup>3</sup> /min] & Required Shaft Power La(kW) at each suction pressure																Cooling Water (l/min)
		0.1kg/cm <sup>2</sup> (9.8kPa)		0.2kg/cm <sup>2</sup> (19.6kPa)		0.3kg/cm <sup>2</sup> (29.4kPa)		0.4kg/cm <sup>2</sup> (39.2kPa)		0.5kg/cm <sup>2</sup> (49kPa)		0.6kg/cm <sup>2</sup> (58.8kPa)		0.7kg/cm <sup>2</sup> (68.6kPa)		0.8kg/cm <sup>2</sup> (78.5kPa)		
		Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	Qs	La	
080	1150	3.72	1.91	3.31	2.36	2.96	2.99	2.67	3.70	2.39	4.31	2.16	4.89	1.94	5.44	1.76	6.08	6
	1300	4.40	2.13	4.00	2.67	3.64	3.46	3.35	4.33	3.06	5.13	2.82	5.85	2.62	6.66	2.44	7.50	
	1450	5.09	2.32	4.68	2.95	4.33	3.89	4.04	4.89	3.75	5.85	3.54	6.84	3.34	7.87	3.16	8.87	
	1500	5.30	2.38	4.88	3.04	4.52	4.03	4.21	5.02	3.91	6.02	3.68	7.04	3.49	8.12	3.31	9.15	
	1750	6.46	2.69	6.05	3.54	5.70	4.76	5.41	6.06	5.13	7.24	4.88	8.40	4.70	9.72	4.51	11.02	
	2040	7.84	3.02	7.37	4.03	6.95	5.35	6.63	6.85	6.29	8.19	5.99	9.55	5.74	10.89	5.54	12.49	
100	1150	5.01	2.33	4.60	3.10	4.25	4.07	3.94	5.14	3.67	6.22	3.43	7.29	3.22	8.38	3.03	9.60	8
	1450	6.71	2.73	6.31	3.82	5.98	5.12	5.65	6.49	5.37	7.84	5.12	9.23	4.90	10.65	4.70	12.03	
	1500	7.00	2.81	6.58	3.91	6.23	5.28	5.89	6.69	5.60	8.07	5.36	9.56	5.12	10.95	4.93	12.47	
	1750	8.41	3.20	8.01	4.47	7.66	6.10	7.33	7.76	7.00	9.40	6.72	11.05	6.44	12.73	6.17	14.39	
	2040	10.11	3.61	9.66	5.02	9.28	6.86	8.93	8.74	8.59	10.61	8.24	12.44	7.89	14.28	7.60	16.05	
125	1180	13.4	4.7	12.6	6.8	11.9	9.3	11.4	11.8	10.9	14.4	10.5	17.0	10.1	19.6	9.8	22.3	10
	1470	17.2	5.9	16.5	8.5	15.9	11.6	15.3	14.9	14.8	18.2	14.4	21.4	14.0	24.8	13.7	28.3	
	1750	21.0	7.0	20.3	9.9	19.7	13.6	19.1	17.5	18.6	21.4	18.2	25.2	17.8	29.1	17.5	33.1	
	1940	23.7	7.6	23.1	10.8	22.6	14.9	22.0	19.2	21.6	23.6	21.2	27.9	20.8	32.4	20.5	36.8	
150	1180	22.3	7.3	21.3	10.9	20.5	14.7	19.8	19.0	19.1	23.4	18.4	27.6	17.9	32.1	17.3	36.3	13
	1470	28.6	8.9	27.5	13.3	26.6	18.2	25.8	23.5	25.2	28.9	24.5	34.0	23.9	39.3	23.3	44.4	
	1750	34.9	10.4	33.8	15.6	32.8	21.3	32.0	27.5	31.3	33.9	30.8	40.2	30.2	46.3	29.6	52.3	
	1940	39.3	11.3	38.4	16.9	37.5	23.4	36.8	30.3	36.1	37.2	35.5	44.1	34.9	51.0	34.4	57.7	
200	880	41.3	11.4	39.6	19.1	38.3	26.4	37.3	34.1	36.3	41.7	35.5	49.6	34.6	57.4	33.8	65.6	16
	970	45.9	12.4	44.4	20.7	43.2	29.0	42.2	37.6	41.1	45.9	40.2	54.6	39.2	63.3	38.5	72.3	
	1100	52.9	14.1	51.5	23.2	50.2	32.5	49.1	42.5	48.1	52.3	47.1	62.0	46.1	71.9	45.1	81.6	
	1180	57.1	15.1	55.5	24.8	54.2	34.8	53.0	45.5	51.9	56.0	50.9	66.4	49.8	77.0	48.8	87.6	
	1470	72.4	18.4	70.3	30.8	68.7	43.4	67.2	56.5	66.0	69.9	64.8	83.1	63.7	96.3	62.6	109.5	
	1750	87.3	21.6	85.0	36.5	83.2	51.7	81.6	67.5	80.3	83.3	79.1	99.0	77.8	115.1	76.7	131.0	
250	880	85.0	23.0	83.0	37.0	80.9	52.4	79.1	68.8	77.6	85.0	76.10	100.5	74.8	116.3	73.5	132.0	18
	980	96.1	25.5	93.8	41.0	91.8	58.5	89.9	76.7	88.3	94.7	86.8	112.0	85.4	129.5	84.1	147.0	
	1150	115.1	29.9	112.1	48.3	109.6	68.9	107.5	90.4	105.5	111.0	103.8	131.3	102.2	151.5	100.7	171.1	
	1280	129.9	33.1	126.9	54.1	124.1	77.0	122.2	100.8	120.3	123.7	118.4	146.0	116.4	167.8	114.7	189.1	
300	730	102.2	28.7	99.8	44.7	97.2	63.1	94.8	82.8	92.9	102.7	91.2	122.6	89.5	141.9	87.8	161.4	20
	800	114.0	30.6	111.4	48.6	108.7	68.9	105.9	90.1	103.9	111.9	101.9	133.2	100.3	154.4	98.7	175.7	
	880	126.8	33.6	123.8	52.7	121.1	75.1	118.4	98.1	116.1	121.9	114.1	145.0	112.5	168.8	111.1	192.2	
	980	142.7	37.2	139.4	57.9	136.9	82.3	134.4	108.3	132.1	134.3	130.2	160.2	128.3	186.4	126.6	213.1	
	1150	171.6	43.4	167.6	67.3	164.4	96.6	161.9	127.2	159.4	157.3	157.2	187.1	155.1	216.2	153.5	246.4	
350	580	172.6	52.4	168.6	75.9	165.5	107.6	162.6	141.0	159.3	173.4	156.0	205.9	153.2	237.1	150.5	269.2	25
	650	198.9	58.2	194.3	84.5	190.4	119.5	186.7	155.5	183.7	191.9	180.4	226.9	177.4	261.7	175.1	298.3	
	700	221.7	62.6	215.2	90.8	210.2	128.7	206.8	168.8	203.5	207.2	200.5	245.7	198.3	284.7	195.3	322.2	
	750	242.3	66.3	236.2	97.0	230.3	137.7	226.3	180.0	222.6	220.9	219.7	262.5	217.0	303.9	214.3	344.5	
	800	263.6	70.1	256.8	102.7	251.1	146.2	246.8	191.2	242.8	235.3	239.1	278.2	236.3	321.3	233.7	365.0	
400	580	192.3	57.3	188.7	82.6	184.9	114.0	181.1	149.2	177.2	184.9	173.6	220.1	170.0	254.3	166.9	288.2	35
	650	221.8	63.7	217.3	92.3	213.0	129.2	209.2	170.0	204.9	209.9	201.7	250.1	198.1	288.8	194.8	325.8	
	700	244.3	67.7	239.2	98.9	234.0	138.9	230.5	184.0	226.7	227.7	223.1	270.7	219.3	312.6	215.5	352.0	
	750	267.0	71.8	261.6	106.0	256.2	149.1	251.7	196.7	247.9	244.2	244.0	290.4	240.2	334.2	236.5	377.2	
	800	290.4	75.9	283.9	113.1	278.4	158.9	274.3	210.1	269.3	259.8	264.6	306.9	260.6	353.4	257.5	400.2	
500	580	290.2	84.9	284.3	121.0	278.3	169.3	273.0	221.8	267.4	275.0	262.5	328.0	257.9	379.8	252.9	429.8	40
	600	305.7	88.6	299.5	126.8	294.1	177.6	288.3	232.5	283.1	289.0	278.4	345.2	273.3	399.3	268.5	452.6	
	650	337.8	95.0	330.0	136.5	323.7	191.4	317.5	250.8	311.9	310.8	306.7	369.8	301.9	429.3	297.5	486.7	
	700	372.1	101.1	361.8	146.6	354.7	206.2	348.1	269.8	342.3	333.5	337.1	397.7	330.7	459.1	325.6	519.6	
	750	407.2	107.3	395.7	156.3	386.8	220.0	379.9	288.0	373.5	354.6	367.6	421.6	361.6	487.6	356.1	552.4	

- Qs listed in the performance table represents an air volume. (when Temp. 20°C, absolute pressure 760mmHg, relative humidity 70% and special gravity 1.2kg/m<sup>3</sup>) Unless site condition meets above, call supplier or KFM.
- Motor should be selected with 1.1~1.2 times of shaft power(La) considering pressure loss.
- Qs has ±5% the tolerance by KS B 6351.
- Color  in the performance table is for water cooling.



## Exploded view for Type "T"



No.	Description	No.	Description	No.	Description
1	CASING	9	O RING	17	OIL SEAL
2	DRIVEN ROTOR	10	BEARING	18	GEAR COVER
3	DRIVING ROTOR	11	BEARING	19	BEARING COVER HOLE
4	SIDE COVER(G/S)	12	SNAP RING	20	O RING
5	SIDE COVER(P/S)	13	OIL SEAL	21	BEARING COVER
6	BEARING CASE(G/S)	14	GEAR	22	GASKET(SIDE COVER)
7	BEARING CASE(P/S)	15	LOCK WASHER	23	GASKET(GEAR COVER)
8	O RING	16	LOCK NUT		



Thinking of man and nature together

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