



AIRSPEC™

Roots Blower

Max Vacuum 260 Torr
Max Pressure 0.8 kgf/cm²
Max Airflow 9918 m³/h



3-LOBE ROOTS BLOWER

FEATURES:

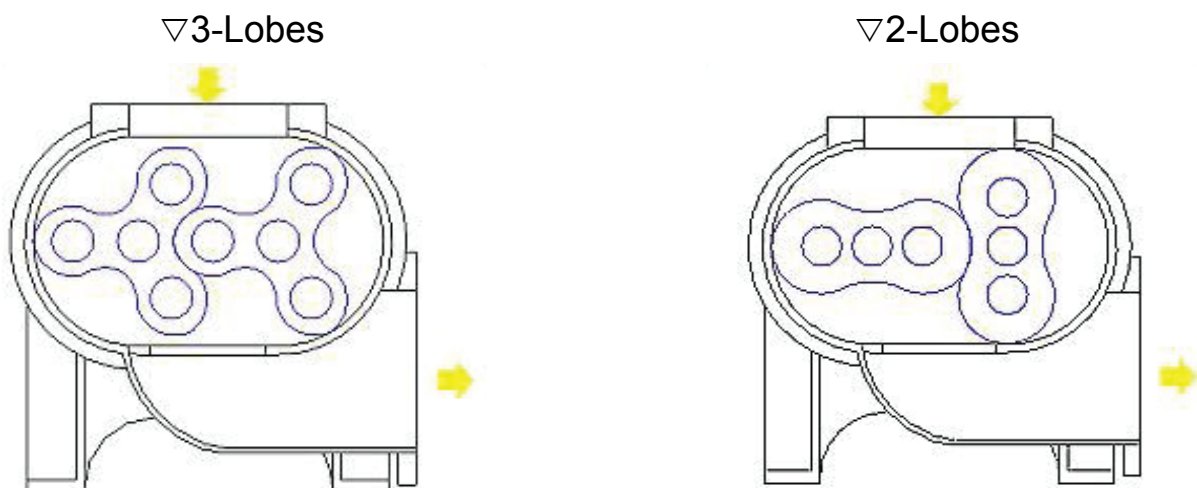
1. Wide range of capacity, pressure, vacuum
Bore size: 40 mm ~ 300 mm (1-1/2" ~ 12")
Capacity: 0.36 ~ 160 m³/min (42 ~ 5700 CMF)
Pressure:
ASS up to 8000 mmAq (0.8 Kg/cm²)
ASW up to 10000 mmAq (1 Kg/cm²)
TRS (2 stage type) up to 20000 mmAq (2 Kg/cm²)
Vacuum:
1 stage up to -7000 mmAq (-500 mmHg)
2 stage up to -8000 mmAq (-600 mmHg)
2. Blowed air without oil
3. Computerized balance to lower noise level and vibration
4. Steady blow, steady capacity
5. Rotor of special design, high efficiency, low consumption
6. Solid construction, no defect
7. First degree gear, high precision, low consumption
8. Standardized processing system
9. One step process for rotor
10. Piston ring installed

The difference between roots blowers of 2 lobes and 3 lobes

Traditional 2 lobes roots blower has high vibration and noise level, this causes short life of parts.

THE ADVANTAGE OF 3-LOBE ROOTS BLOWER:

1. Low reverses pressure, steady capacity, low vibration, low noise level
2. Low fluctuation of outlet pressure, make long life of rotor, gear
3. In the same RPM, 3-lobe roots blower has low noise level, low vibration, longer life



APPLICATION:

WASTE WATER

1. Dust collecting after burning
2. Equipment of dust collection
3. Vacuum dehydration for dying, paper industry
4. Ventilation, desolates
5. Environment caring
6. Air transportation
7. Gas, bulk conveyance
8. Aquarium
9. Conveyance by air
10. Liquid agitation

UNIT CONVERSION:

PRESSURE	atm	kpa	bar	lbt/m2	in Hg	in Hg	ftAg	mmHg(Torr)	mmAq
1 atm	1	101.325	1.01325	14.696	1.0333	29.921	33.914	760	10333
1 kpa	0.0099	1	0.01	0.145	0.0102	0.295	0.335	7.5	102
1 bar	0.9869	100	1	14.504	1.0198	29.53	33.47	750	101.98
1 lbt/m2(psi)	0.068	6.894	0.0689	1	0.0703	2.036	2.308	51.71	703
1 kgf/cm	0.968	98.062	0.981	14.228	1	28.96	32.82	735.53	10000
1 inhg	0.0334	3.3863	0.0339	0.491	0.0345	1	1.133	25.4	345.3
1 ftAq	0.0295	2.99	0.0299	0.434	0.0305	0.882	1	22.42	304.8
1 mmHg(Torr)	0.013	0.1338	0.00138	0.019	0.0014	0.04	0.045	1	13.6
1 mm Aq	0.000097	0.0098	0.000098	0.0014	0.0001	0.003	0.0033	0.074	1

Pressure Conversion Formula

1 kPa = 1000kPa = 10000 N/M²

1 mmHg = 13.6 mmAq

1 psi = 703 mmAq

CAPACITY

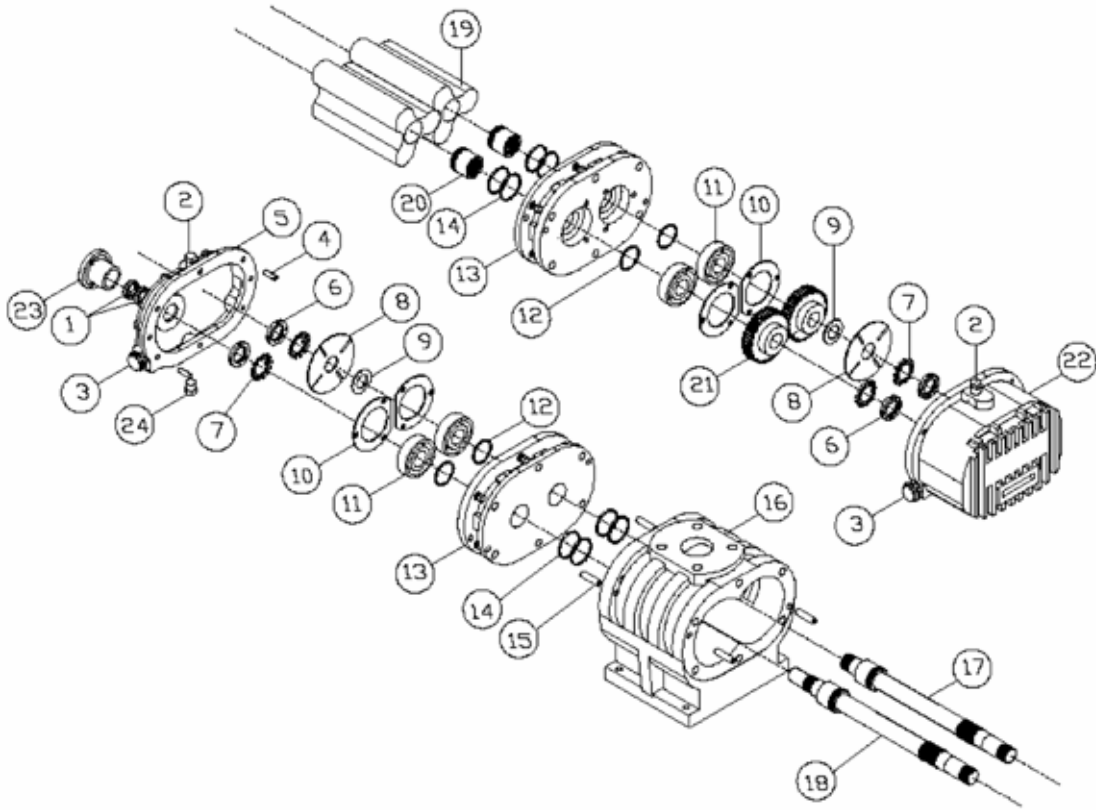
CAPACITY	m3/min	l/min	m3/h	ft3/min(cft)
1 m3/min	1	1000	60	35.288
1 l/min	0.001	1	0.06	0.035
1 m3/h	0.017	16.67	1	0.589
1ft3/min(cft)	0.028	28.32	1.699	1

POWER

POWER	kg-m/sec	KW	HP	PS
1 kg-m/sec	1	0.01	0.013	0.013
1 KW	101.97	1	1.341	1.360
1 HP	76.038	16.67	1	1.014
1 PS	75	0.7336	0.986	1

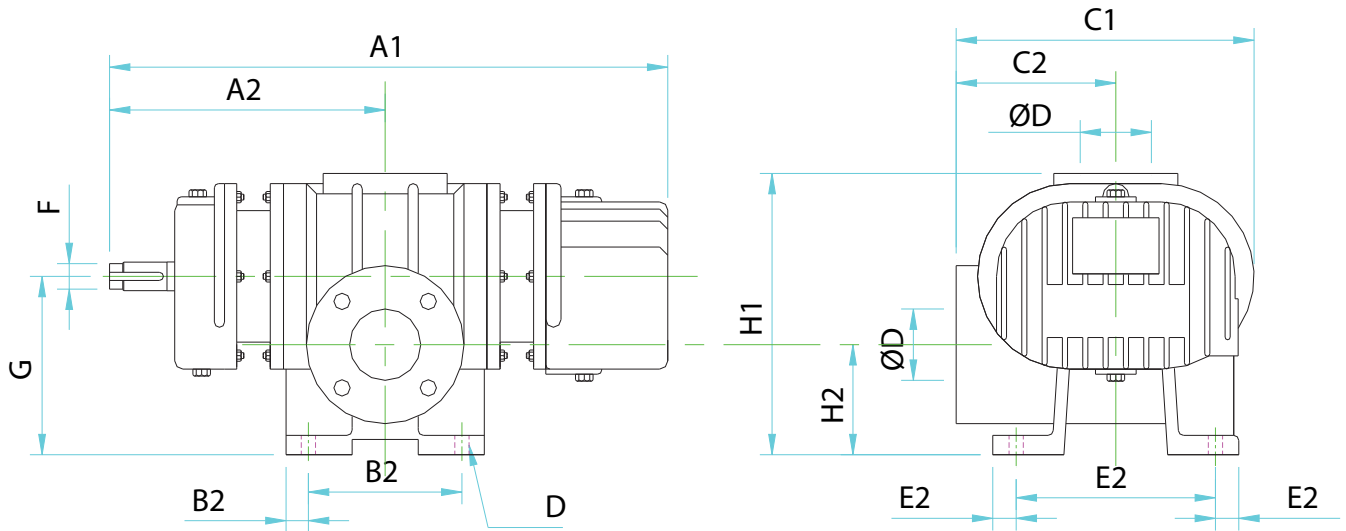
1. Application :
Please make a description of place, purpose and running period.
2. Capacity :
Please indicate the inlet and outlet condition.
Normal or standard state
3. Pressure :
Please indicate the inlet and outlet condition.
Normal or standard state
4. Fluid property :
 - 4.1 Species and characteristic
 - 4.2 The weighted averages value
 - 4.3 Specific gravity
 - 4.4 Chemical composition
 - 4.5 Special material
 - 4.6 Explosive or toxic material
5. Temperature and humidity :
Please consult with factory if the inlet temperature exceeds 50°C.
6. Motor :
Voltage, frequency and phase should be indicated in your enquiry.

ASS ASSEMBLING



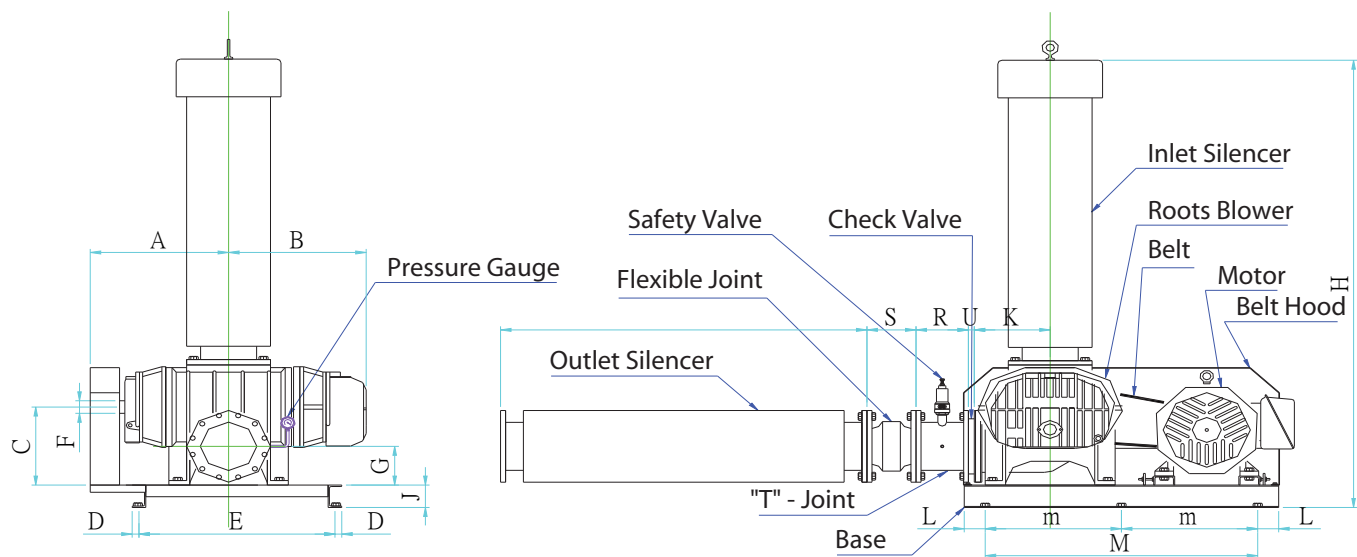
NO.	NAME	MATERIAL	Q'TY	NO.	NAME	MATERIAL	Q'TY
1	Oil seal	Viton	1	16	Casing	FC25	1
2	Lubrication plug	S45C	2	17	Driven shaft	SCM440	1
3	Oil gauge	Plastic	2	18	Drive shaft	SCM440	1
4	Positioning pin	S45C	2	19	Rotor	FCD500	2
5	Oil box	FC25	1	20	Shaft bushing	SCM440	2
6	Lock nut	S45C	4	21	Gear	SNCM220	2
7	Washer	S45C	4	22	Gear box	FC25	1
8	Oil Splash	SS41	2	23	Seal housing	FC25	1
9	Washer	SS41	2	24	Purge plug	S45C	1
10	Bearing washer	SS41	2	25			
11	Bearing	SUJ2	4	26			
12	V- ring	Viton	4	27			
13	Bearing housing	FC25	2	28			
14	Piston ring	FCD500	8	29			
15	Positioning pin	S45C	4	30			

ASS BODY DIMENSION



Model	A1	A2	B1	B2	C1	C2	φD	φd	E1	E2	F	G	H1	H2	Wt.(kg)
ASS-40	457	219	80	15	300	164	70	14	196	23	28	180	290	108	65
ASS-50	537	259	150	22.5	294	158	61.5	14	196	22	28	175	276	108	70
ASS-65	597	289	195	30.5	288	152	77.5	14	200	25	28	173	274	107	75
ASS-80	664	344	195	22.5	358	180	90	16	200	20	38	213	343	114	143
ASS-100	714	394	282	20.5	364	186	116	16	232	30	38	225	359	120	166
ASS-125A	772	377	210	20	483	250	142	19	346	27	48	265	514	143	274
ASS-125	892	437	310	30	483	250	142	19	355	22.5	48	265	501	163	296
ASS-150	1002	492	428	26	483	250	167	19	355	22.5	48	295	463	172	352
ASS-200A	962	465	239	45.5	697	357	200	23	555	42.5	65	355	605	198	640
ASS-200	1062	515	400	40	685	345	200	23	550	33	65	405	705	194	880
ASS-250	1212	590	520	25	715	356	260	23	550	35	65	435	675	216	1050
ASS-300A	1481	758	680	45	705	360	320	24	540	40	70	435	675	255	1350
ASS-300	1310	625	510	30	1060	560	320	23	780	35	95	550	1010	300	2000

ASS STRUCTURE DIMENSION



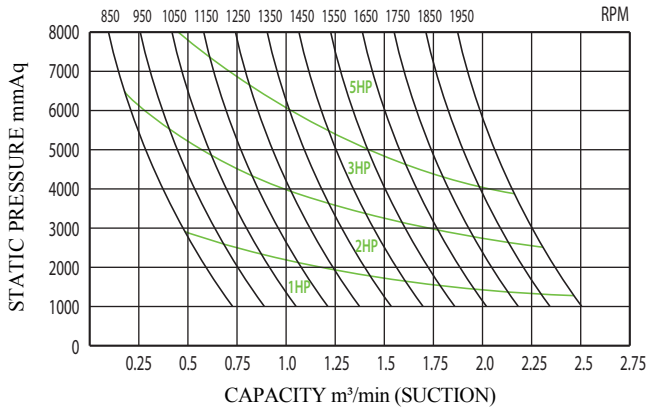
Model	A	B	C	D	E	F	G	H	J	K	L	M	m	R	U	S	T	Wt.(kg)
ASS-40	260	238	180	20	340	28	108	600	46	164	41.5	517	-	-	-	-	-	103
ASS-50	302	278	175	50	350	28	108	897	75	158	37.5	795	-	150	20	85	592	136
ASS-65	323	308	173	50	350	28	107	897	75	152	37.5	795	-	150	24	95	596	155
ASS-80	406	320	213	50	450	38	114	1236	75	180	37.5	945	-	180	24	110	796	250
ASS-100	467	370	225	25	550	38	120	1287	100	186	100	760	-	180	24	115	796	330
ASS-125A	440	395	265	25	550	48	143	1843	100	250	100	900	-	250	25	140	1260	450
ASS-125	500	455	265	25	550	48	163	1843	100	250	100	900	-	250	25	140	1260	485
ASS-150	566	510	295	25	550	48	172	1875	100	250	100	900	-	250	26	150	1264	525
ASS-200A	540	497	355	32.5	935	65	198	2230	125	357	100	-	650	250	28	170	1644	900
ASS-200	620	547	405	32.5	935	65	194	2330	125	345	100	-	650	250	28	170	1644	1155
ASS-250	680	622	435	32.5	935	65	216	2500	125	356	100	-	650	250	28	210	1748	1500
ASS-300A	760	717	430	32.5	925	65	255	2644	150	362	235	1530	765	300	30	240	1848	1800
ASS-300	828	685	550	35	1035	95	300	3084	250	560	235	-	1000	300	30	240	1848	2800

ASS ENTITY PICTURE

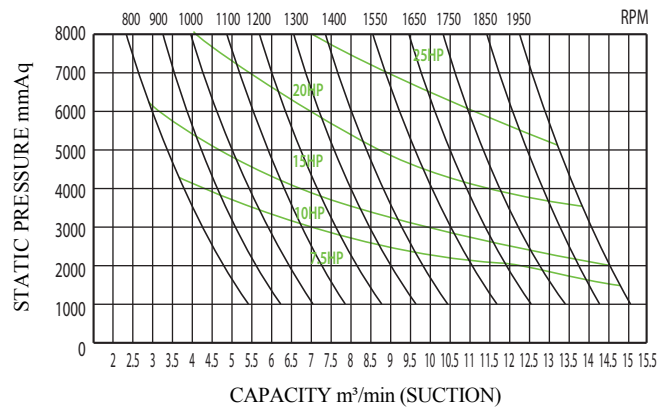


ASS PERFORMANCE CHART

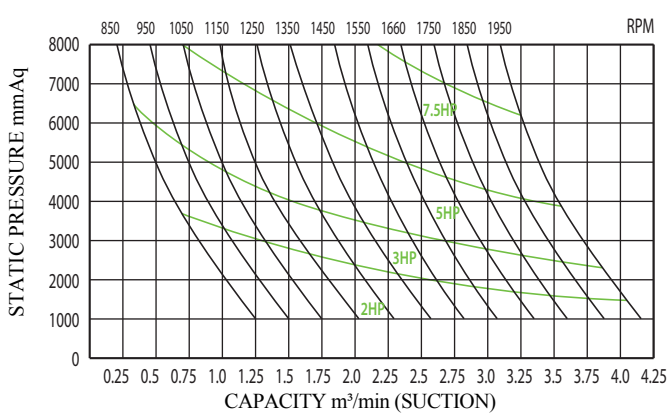
ASS-40



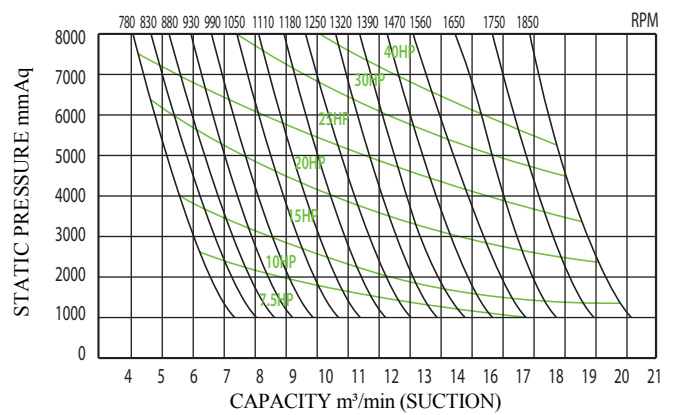
ASS-100



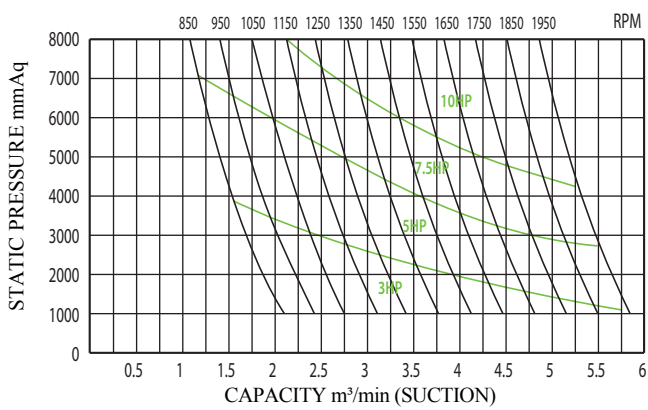
ASS-50



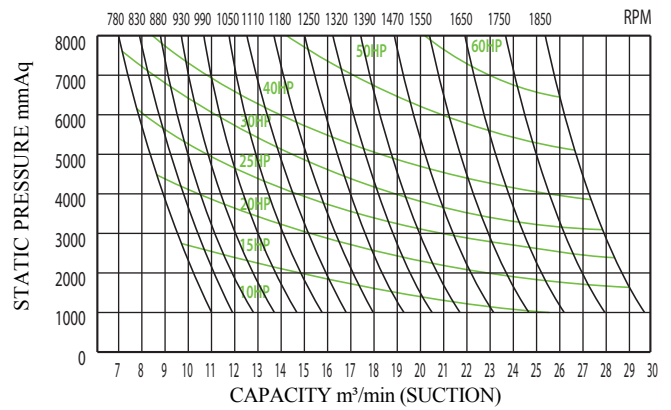
ASS-125A



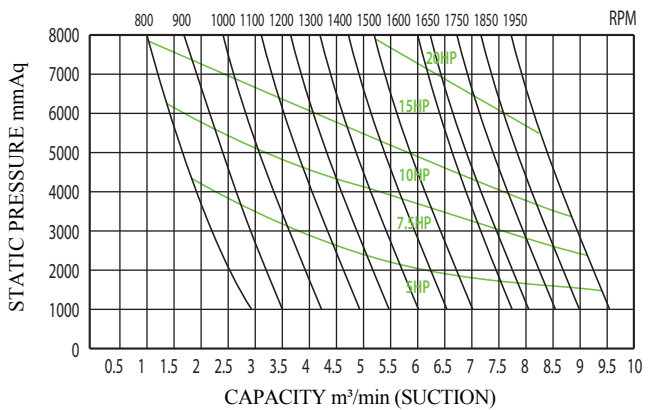
ASS-65



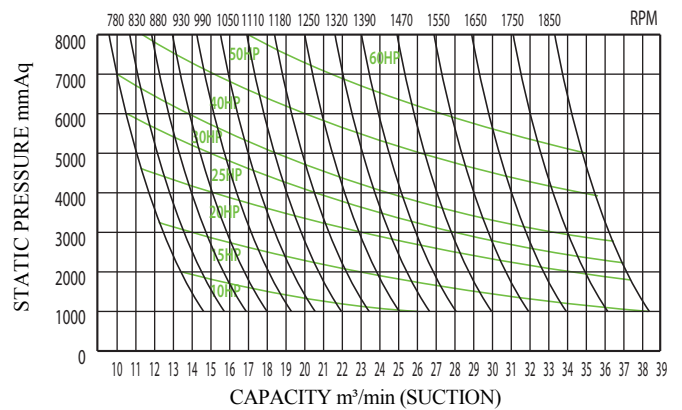
ASS-125



ASS-80

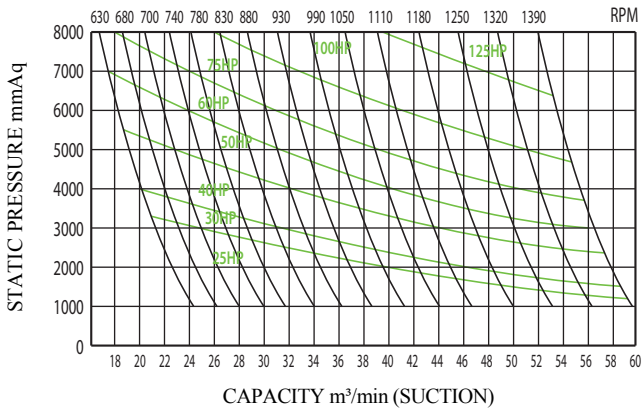


ASS-150

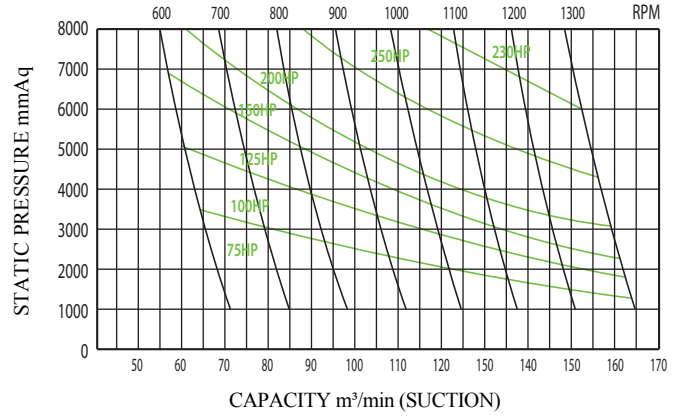


ASS PERFORMANCE CHART

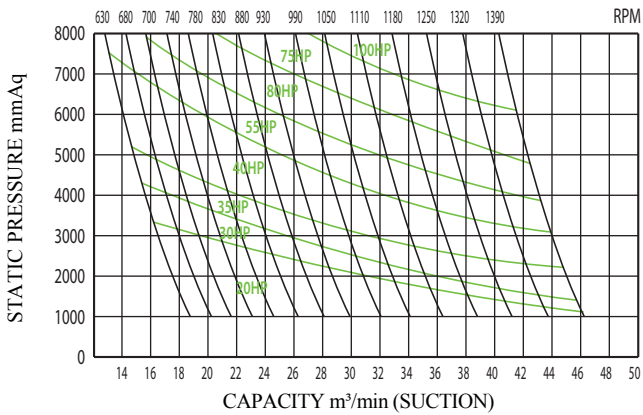
ASS-200A



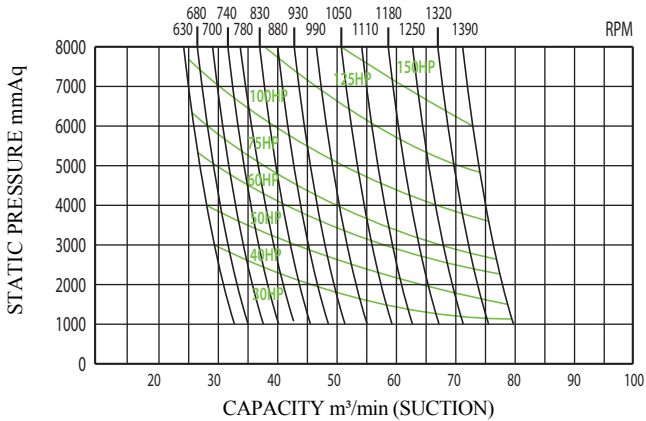
ASS-300



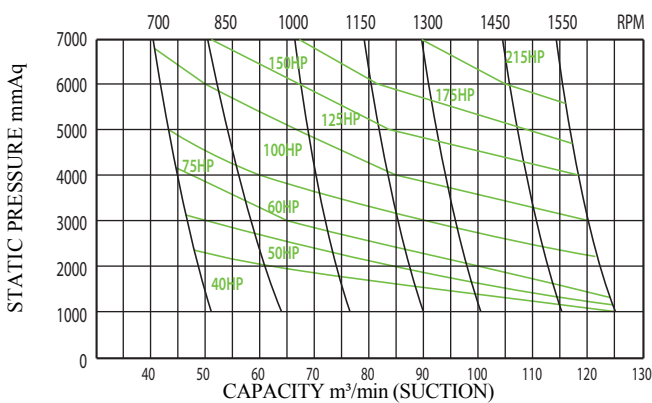
ASS-200



ASS-250



ASS-300A



ASS PERFORMANCE TABLE

Model	RPM	Type ASS-40 performance															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
ASS-40	850	0.74	0.27	0.59	0.53	0.48	0.82	0.37	1.00	0.28	1.21	0.22	1.42	0.16	1.61	0.11	1.81
	950	0.90	0.30	0.75	0.59	0.64	0.85	0.53	1.11	0.44	1.34	0.38	1.58	0.32	1.81	0.27	2.02
	1050	1.06	0.33	0.91	0.65	0.79	0.94	0.70	1.22	0.61	1.50	0.53	1.75	0.48	2.00	0.42	2.23
	1150	1.22	0.37	1.08	0.71	0.96	1.03	0.86	1.40	0.76	1.64	0.70	1.92	0.64	2.19	0.59	2.45
	1250	1.38	0.37	1.24	0.77	1.12	1.12	1.02	1.46	0.92	1.78	0.86	2.09	0.80	2.39	0.75	2.55
	1350	1.54	0.43	1.39	0.83	1.28	1.21	1.18	1.58	1.09	1.93	1.02	2.26	0.97	2.56	0.91	2.66
	1450	1.70	0.46	1.56	0.89	1.45	1.30	1.34	1.69	1.26	2.06	1.18	2.42	1.12	2.76	1.08	2.76
	1550	1.86	0.49	1.72	0.95	1.61	1.39	1.50	1.81	1.41	2.21	1.34	2.59	1.28	2.95	1.24	3.08
	1650	2.02	0.52	1.88	1.01	1.77	1.48	1.66	1.93	1.57	2.35	1.51	2.75	1.45	3.14	1.40	3.40
	1750	2.19	0.59	2.04	1.08	1.93	1.57	1.82	2.05	1.73	2.49	1.66	2.92	1.60	3.33	1.56	3.78
	1850	2.35	0.59	2.20	1.14	2.09	1.66	1.98	2.17	1.88	2.63	1.82	3.09	1.76	3.52	1.72	4.04
1950	2.51	0.62	2.36	1.23	2.25	1.75	2.14	2.29	2.04	2.77	1.97	3.26	1.91	3.70	1.87	4.37	

Model	RPM	Type ASS-50 performance															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
ASS-50	850	1.23	0.45	0.98	0.88	0.80	1.37	0.62	1.66	0.47	2.02	0.36	2.36	0.26	2.69	0.18	3.01
	950	1.50	0.50	1.25	0.98	1.06	1.42	0.89	1.85	0.74	2.24	0.63	2.64	0.53	3.01	0.45	3.37
	1050	1.76	0.55	1.52	1.08	1.32	1.57	1.16	2.04	1.01	2.50	0.89	2.92	0.80	3.33	0.71	3.72
	1150	2.03	0.61	1.80	1.18	1.60	1.72	1.43	2.34	1.27	2.74	1.16	3.20	1.07	3.65	0.98	4.08
	1250	2.30	0.66	2.07	1.28	1.87	1.86	1.70	2.43	1.54	2.97	1.43	3.48	1.34	3.97	1.25	4.25
	1350	2.56	0.72	2.35	1.38	2.14	2.02	1.97	2.63	1.81	3.21	1.70	3.76	1.61	4.27	1.52	4.43
	1450	2.83	0.77	2.60	1.49	2.41	2.17	2.23	2.82	2.08	3.44	1.97	4.03	1.87	4.60	1.80	4.60
	1550	3.10	0.82	2.87	1.59	2.68	2.32	2.50	3.02	2.35	3.68	2.24	4.31	2.14	4.92	2.07	5.13
	1650	3.37	0.87	3.14	1.69	2.95	2.47	2.77	3.22	2.62	3.92	2.51	4.59	2.41	5.24	2.34	5.66
	1750	3.65	0.93	3.40	1.80	3.21	2.62	3.03	3.42	2.88	4.15	2.77	4.87	2.67	5.55	2.60	6.30
	1850	3.92	0.98	3.67	1.90	3.48	2.77	3.30	3.62	3.14	4.38	3.03	5.15	2.93	5.86	2.86	6.74
1950	4.19	1.03	3.94	2.00	3.75	2.92	3.57	3.82	3.40	4.61	3.29	5.43	3.19	6.17	3.12	7.28	

Model	RPM	Type ASS-65 performance															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
ASS-65	850	2.07	0.62	1.89	1.21	1.71	1.76	1.55	2.29	1.41	2.78	1.29	3.26	1.19	3.71	1.09	4.15
	950	2.41	0.83	2.23	1.35	2.05	1.96	1.89	2.55	1.74	3.11	1.63	3.64	1.53	4.15	1.43	4.64
	1050	2.76	1.20	2.58	1.49	2.40	2.16	2.23	2.82	2.09	3.44	1.98	4.02	1.87	4.57	1.77	5.13
	1150	3.10	1.35	2.93	1.64	2.74	2.38	2.58	3.09	2.45	3.77	2.33	4.41	2.22	5.03	2.12	5.62
	1250	3.41	1.50	3.27	1.78	3.08	2.59	2.92	3.36	2.79	4.09	2.67	4.79	2.56	5.46	2.46	6.10
	1350	3.77	1.60	3.61	1.92	3.42	2.80	3.26	3.63	3.13	4.42	3.01	5.17	2.91	5.90	2.80	6.59
	1450	4.13	1.70	3.96	2.06	3.77	3.01	3.62	3.90	3.48	4.75	3.36	5.56	3.26	6.34	3.15	7.08
	1550	4.48	1.80	4.30	2.20	4.11	3.21	3.96	4.17	3.82	5.07	3.70	5.94	3.60	6.77	3.49	7.56
	1650	4.82	1.90	4.65	2.34	4.45	3.42	4.30	4.44	4.16	5.40	4.04	6.32	3.94	7.20	3.84	8.54
	1750	5.17	2.00	5.00	2.49	4.80	3.63	4.65	4.70	4.50	5.73	4.39	6.70	4.29	7.64	4.19	8.54
	1850	5.51	2.10	5.34	2.63	5.14	3.83	4.99	4.98	4.84	6.05	4.73	7.08	4.63	8.07	4.53	9.02
1950	5.86	2.20	5.68	2.77	5.48	4.04	5.33	5.25	5.18	6.38	5.07	7.46	4.97	8.50	4.88	9.51	

Model	RPM	Type ASS-80 performance															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
ASS-80	800	2.91	1.40	2.55	2.12	2.23	2.81	1.93	3.51	1.67	4.31	1.42	5.43	1.21	6.55	1.02	7.67
	900	3.51	1.50	3.25	2.32	2.93	3.14	2.63	3.84	2.36	4.64	2.12	5.76	1.89	6.88	1.70	8.00
	1000	4.21	1.60	3.95	2.53	3.63	3.47	3.33	4.25	3.06	5.52	2.82	6.64	2.61	7.06	2.42	8.18
	1100	4.91	1.70	4.65	2.75	4.33	3.80	4.03	4.70	3.76	5.71	3.52	6.83	3.31	7.95	3.12	9.07
	1200	5.40	1.80	5.14	2.91	4.82	4.03	4.52	5.04	4.29	6.05	4.07	7.17	3.84	8.29	3.65	9.41
	1300	6.05	1.90	5.75	3.20	5.43	4.25	5.13	5.60	4.95	6.72	4.69	7.84	4.48	8.96	4.29	10.08
	1400	6.53	2.00	6.27	3.47	5.95	4.59	5.65	5.82	5.38	7.05	5.14	8.28	4.93	9.56	4.74	10.84
	1500	7.00	2.10	6.74	3.50	6.42	5.04	6.12	6.27	5.85	7.50	5.61	8.96	5.40	10.42	5.21	11.88
	1600	7.76	2.20	7.50	3.92	7.18	5.26	6.86	6.66	6.61	8.06	6.37	9.52	6.16	10.98	5.97	12.44
	1650	8.02	2.25	7.76	4.03	7.44	5.37	7.14	6.83	6.87	8.28	6.63	9.74	6.42	11.20	6.23	12.66
	1750	8.58	2.35	8.28	4.25	7.94	5.71	7.64	7.28	7.38	8.73	7.13	10.30	6.92	11.87	6.73	13.44
	1850	9.07	2.45	8.73	4.70	8.41	6.04	8.11	7.61	7.85	9.18	7.60	10.86	7.39	12.30	7.20	13.77
	1950	9.54	2.55	9.28	4.92	8.96	6.72	8.66	8.40	8.39	10.19	8.15	11.42	7.94	12.15	7.75	14.07

ASS PERFORMANCE TABLE

Model	RPM	Type ASS-100 performance															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
ASS-100	850	5.40	1.46	4.79	2.82	4.25	4.04	3.76	5.19	3.34	6.03	2.96	7.20	2.63	8.10	2.34	8.96
	950	6.24	1.64	5.63	3.17	5.09	4.55	4.60	5.83	4.18	6.91	3.80	8.10	3.47	9.11	3.18	10.07
	1000	7.08	1.83	6.47	3.52	5.93	5.06	5.44	6.48	5.02	7.79	4.64	9.00	4.31	10.13	4.02	11.18
	1100	7.92	2.01	7.31	3.87	6.77	5.56	6.28	7.12	5.86	8.67	5.48	9.90	5.15	11.14	4.75	12.29
	1200	8.76	2.19	8.15	4.22	7.61	6.07	7.12	7.77	6.70	9.55	6.32	10.80	5.99	12.15	5.70	13.41
	1300	9.60	2.38	8.99	4.57	8.45	6.58	7.96	8.42	7.54	10.43	7.16	11.70	6.83	13.17	6.54	14.53
	1400	10.44	2.56	9.83	4.92	9.29	7.08	8.86	9.07	8.38	11.31	8.00	12.60	7.67	14.18	7.38	15.69
	1550	11.72	2.76	11.11	5.09	10.57	7.84	10.08	10.04	9.56	12.63	9.18	13.95	8.85	15.70	8.56	17.31
	1650	12.55	2.98	11.94	5.62	11.40	8.34	10.91	10.69	10.49	13.13	10.11	14.85	9.78	16.71	9.49	18.43
	1750	13.38	3.21	12.77	6.15	12.23	8.85	11.74	11.33	11.32	13.62	10.94	15.75	10.61	17.72	10.32	19.55
	1850	14.21	3.43	13.79	6.68	13.37	9.35	12.88	11.98	12.46	14.26	12.02	16.65	11.69	18.73	11.37	20.67
1950	15.04	3.66	14.52	7.21	14.11	9.86	13.67	12.63	13.25	14.62	12.87	17.55	12.54	19.74	12.25	21.79	

Model	RPM	Type ASS-125A performance															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
ASS-125A	780	7.44	2.70	6.70	4.19	6.14	5.77	5.67	7.25	5.30	8.84	4.90	10.43	4.50	12.02	4.10	13.61
	830	8.00	2.79	7.35	4.46	6.79	6.05	6.32	7.72	5.86	9.30	5.49	10.97	5.05	12.64	4.65	14.31
	880	8.65	2.98	7.91	4.65	7.35	6.42	6.88	8.18	6.51	9.86	6.14	11.63	5.69	13.40	5.28	15.20
	930	9.21	3.07	8.46	4.93	7.91	6.79	7.44	8.56	7.07	10.42	6.70	12.28	6.30	14.20	5.91	16.12
	990	9.95	3.26	9.21	5.21	8.65	7.16	8.18	9.11	7.79	11.07	7.44	13.02	7.07	14.97	6.80	16.92
	1050	10.60	3.44	9.95	5.49	9.39	7.53	9.00	9.67	8.46	11.70	8.09	13.76	7.81	15.90	7.50	18.04
	1100	11.35	3.63	10.60	5.77	10.14	8.00	9.67	10.14	9.21	12.37	8.84	14.60	8.46	16.74	8.21	18.88
	1180	12.18	3.81	11.44	6.14	10.88	8.46	10.42	10.79	10.07	13.11	9.67	15.44	9.30	17.76	8.92	20.08
	1250	13.02	4.00	12.28	6.51	11.72	8.93	11.25	11.44	10.88	13.86	10.51	16.28	10.14	19.53	9.70	22.80
	1320	13.86	4.28	13.11	6.79	12.56	9.40	12.09	12.00	11.72	14.60	11.35	17.21	10.97	20.46	10.58	23.71
	1390	14.69	4.46	13.95	7.11	13.32	9.95	12.93	12.65	12.56	15.35	12.18	18.14	11.81	21.39	11.38	24.64
	1470	15.62	4.65	14.88	7.53	14.32	10.42	13.86	13.39	13.49	16.28	13.11	19.53	12.74	22.32	12.32	25.11
	1560	16.65	4.93	15.90	8.00	15.44	11.07	14.97	14.14	14.51	17.21	14.14	20.46	13.56	24.18	13.13	27.90
	1650	17.67	5.21	17.02	8.46	16.46	11.72	16.00	14.97	15.62	18.14	15.25	22.32	14.88	25.11	14.54	30.10
	1750	18.88	5.49	18.14	8.93	17.67	12.37	17.21	15.81	16.74	19.53	16.39	23.25	16.09	26.97	15.83	31.10
	1850	20.09	5.77	19.34	9.39	18.79	13.02	18.32	16.74	17.88	21.39	17.58	24.18	17.21	27.90	16.81	32.60

Model	RPM	Type ASS-125 performance															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
ASS-125	780	11.08	3.69	10.10	5.97	9.34	8.15	8.80	10.42	8.25	12.60	7.70	14.88	7.30	17.06	6.90	19.24
	830	11.95	3.92	10.97	6.30	10.21	8.69	9.67	11.08	9.12	13.47	8.58	15.86	8.15	18.25	7.80	20.64
	880	12.82	4.13	11.84	6.62	11.08	9.12	10.43	11.73	9.99	14.23	9.44	16.72	9.01	19.22	8.60	21.72
	930	13.58	4.34	12.70	6.95	11.95	9.67	11.29	12.38	10.75	15.10	10.32	17.70	9.88	20.31	9.50	22.92
	990	14.66	4.56	13.72	7.39	13.02	10.21	12.38	13.14	11.84	15.96	11.29	18.79	10.80	21.61	10.52	24.43
	1050	15.80	4.78	14.72	7.82	14.01	10.86	13.38	13.90	12.81	16.83	12.31	19.87	12.90	23.02	11.60	26.06
	1100	16.72	5.10	15.80	8.25	15.10	11.29	14.42	14.55	13.90	17.81	13.38	21.07	12.92	24.98	12.40	28.90
	1180	17.92	5.32	16.91	8.69	16.29	12.16	15.64	15.64	15.00	18.90	14.58	22.80	14.12	26.06	13.60	29.32
	1250	19.22	5.54	18.24	9.23	17.49	12.82	16.91	16.40	16.40	19.98	15.90	23.89	15.42	27.80	14.90	31.71
	1320	20.42	5.86	19.44	9.77	18.68	13.47	18.14	17.59	17.59	21.07	17.05	25.19	16.62	29.32	16.10	32.69
	1390	21.61	6.19	20.63	10.21	19.87	14.12	19.33	18.14	18.79	22.81	18.25	27.15	17.81	30.41	17.30	33.67
	1470	23.02	6.52	22.05	10.75	21.30	14.99	20.63	19.11	20.10	23.89	19.66	28.24	19.22	34.75	18.70	36.94
	1550	24.54	6.84	23.57	11.29	22.80	15.86	22.26	20.31	21.72	24.98	21.18	30.41	20.74	32.59	20.20	38.09
	1650	26.06	7.28	25.09	11.95	24.44	16.72	23.78	21.39	23.24	27.15	22.67	31.49	22.26	35.84	21.90	40.19
	1750	27.80	7.60	26.82	12.71	26.06	17.70	25.52	23.89	24.98	28.24	24.43	33.67	24.00	38.01	23.60	42.65
	1850	29.54	8.40	28.56	13.47	27.80	18.68	27.26	24.98	26.72	30.41	26.17	35.84	25.78	40.12	25.40	44.40

ASS PERFORMANCE TABLE

Model	RPM	Type ASS-150 performance															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
ASS-150	780	14.59	4.45	13.34	7.41	12.54	10.26	11.74	13.11	11.06	16.07	10.49	18.92	10.01	21.77	9.65	24.62
	830	15.62	4.79	14.48	7.87	13.68	10.83	12.88	13.91	12.20	16.99	11.63	20.18	11.11	23.37	10.75	26.56
	880	16.76	5.02	15.62	8.21	14.71	11.51	14.02	14.82	13.34	18.01	12.65	24.32	12.32	24.63	11.95	27.94
	930	17.90	5.13	16.76	8.66	15.85	12.20	15.05	15.62	14.48	19.04	13.79	22.80	13.32	26.56	12.04	30.32
	990	19.15	5.59	18.13	9.23	17.21	12.88	16.42	16.53	15.73	20.18	15.16	23.94	14.72	27.70	14.34	31.46
	1050	20.52	5.93	19.38	9.80	18.47	13.68	17.78	17.56	17.10	21.43	16.42	25.08	15.84	28.73	15.54	32.50
	1100	21.89	6.15	20.75	10.26	19.84	14.36	19.04	18.47	18.47	22.57	17.78	27.38	17.31	32.20	16.94	37.00
	1180	23.37	6.50	22.23	11.51	21.43	15.28	20.63	19.61	19.95	25.08	19.38	29.64	18.91	34.20	18.54	38.76
	1250	24.97	6.95	23.83	11.51	22.91	16.18	22.23	20.75	21.55	26.22	20.98	30.78	20.51	35.34	20.14	39.90
	1320	26.56	7.30	25.31	12.77	24.51	16.99	23.71	21.89	23.14	27.37	22.46	31.92	22.00	36.48	21.66	41.04
	1390	28.04	7.64	26.90	12.77	25.99	17.90	25.31	23.90	24.62	28.50	24.05	34.20	23.62	39.90	23.24	46.60
	1470	29.87	8.09	28.73	13.45	27.82	18.92	27.02	25.08	26.45	30.78	25.88	36.48	25.41	42.18	25.06	47.88
	1560	31.81	8.55	30.67	14.25	29.75	20.06	29.07	26.22	28.39	31.92	27.82	37.62	27.31	43.32	26.94	49.02
	1650	33.86	9.01	32.72	15.05	31.81	21.20	31.01	28.50	30.44	34.20	29.87	38.91	28.41	44.61	28.05	50.31
	1750	36.02	9.46	34.88	15.96	33.97	22.49	33.29	29.64	32.60	36.48	32.03	42.18	30.51	47.78	30.15	53.58
1850	38.30	10.00	37.16	16.87	36.25	23.94	35.45	30.78	34.88	37.62	34.18	44.46	33.66	50.51	33.29	58.14	

Model	RPM	Type ASS--200A performance															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
ASS-200A	620	18.86	5.83	17.50	9.62	16.52	13.41	15.65	17.20	14.87	21.38	14.19	25.27	13.50	28.19	12.80	31.11
	660	20.22	6.12	18.95	10.30	17.98	14.19	17.11	18.27	16.33	22.36	15.65	26.24	14.97	30.13	14.30	34.02
	700	21.68	6.42	20.41	10.79	19.34	14.97	18.47	19.44	17.69	23.33	17.01	28.19	16.43	32.08	15.71	37.97
	740	23.13	6.90	21.77	11.37	20.80	15.94	19.93	20.40	19.14	25.30	18.47	29.20	17.89	34.00	17.22	38.80
	780	24.59	7.20	23.23	11.86	22.26	16.82	21.28	22.40	20.61	26.20	19.73	31.10	19.25	36.90	18.64	42.70
	830	26.34	7.58	24.98	12.73	24.01	17.79	23.13	23.33	22.36	28.19	21.68	33.05	21.09	38.88	20.43	44.71
	880	28.09	7.97	26.73	13.40	25.76	18.76	24.88	24.30	24.11	29.16	23.43	34.99	22.84	40.82	22.10	46.60
	930	29.94	8.36	28.58	14.09	27.89	19.44	26.73	25.27	25.95	31.10	25.27	36.94	24.59	42.77	23.92	48.70
	990	32.08	8.94	30.72	14.87	29.74	21.38	28.87	27.22	28.10	33.05	27.41	39.85	26.73	45.68	26.00	51.50
	1050	34.21	9.43	32.85	15.84	31.88	22.36	31.01	28.19	30.23	35.97	29.55	41.80	28.87	48.60	28.24	55.40
	1110	36.35	9.91	34.99	16.62	34.02	23.33	33.15	30.13	32.37	37.91	31.69	44.71	31.01	50.54	30.32	56.30
	1180	38.78	10.50	37.52	17.69	36.45	25.27	35.58	32.08	34.90	39.85	34.12	46.66	33.53	53.46	32.83	60.10
	1250	41.31	11.08	39.95	18.86	38.98	26.24	38.10	34.02	37.33	41.80	36.64	49.57	36.06	57.35	35.41	65.00
	1320	43.84	11.66	42.48	19.44	41.41	28.19	40.63	36.94	39.85	44.71	39.17	52.49	38.49	60.26	37.80	68.10
	1390	46.27	13.34	45.00	20.41	43.93	29.16	43.06	37.91	42.28	46.66	41.60	55.40	41.02	63.18	40.31	71.00

Model	RPM	Type ASS--200 performance															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
ASS-200	620	24.3	7.0	22.6	11.9	21.2	16.8	20.1	22.0	19.2	26.0	18.20	32.0	17.4	37.0	16.7	42.0
	660	26.1	7.5	24.4	12.7	23.1	17.9	22.0	23.0	21.0	28.0	20.1	34.0	19.3	39.0	18.6	44.0
	700	27.9	7.9	26.2	13.4	24.9	18.9	23.8	24.0	22.8	30.0	21.9	37.0	23.0	44.0	22.3	47.0
	740	29.8	8.3	28.1	14.1	26.7	20.0	25.6	26.0	24.7	31.0	23.7	38.0	23.0	44.0	22.3	50.0
	780	31.6	8.7	29.9	14.9	28.6	21.0	27.5	27.0	26.5	33.0	25.6	40.0	24.8	46.0	24.1	52.0
	830	33.9	9.4	32.2	15.9	30.8	23.0	29.7	29.0	28.7	37.0	27.9	43.0	27.1	49.0	26.4	55.0
	880	36.2	10.0	34.4	16.9	33.1	24.0	32.0	31.0	31.1	39.0	30.2	45.0	29.4	52.0	28.7	59.0
	930	38.5	10.4	36.8	17.7	35.4	25.0	34.3	32.0	33.4	40.0	32.5	47.0	31.7	54.0	30.0	61.0
	990	41.2	11.0	39.5	18.8	38.2	26.0	37.1	34.0	36.1	43.0	35.2	50.0	34.4	58.0	33.7	66.0
	1050	44.0	11.6	42.3	20.0	40.9	28.0	39.8	37.0	38.9	45.0	38.0	53.0	37.2	61.0	36.5	69.0
	1110	46.7	12.2	45.0	21.0	43.7	30.0	42.6	39.0	41.6	48.0	40.7	56.0	39.9	65.0	39.2	74.0
	1180	49.9	13.1	48.2	22.0	46.9	31.0	45.8	41.0	44.8	50.0	43.9	59.0	43.1	68.0	42.4	77.0
	1250	53.1	13.8	51.4	24.0	50.1	33.0	49.0	44.0	48.0	53.0	47.1	63.0	46.3	72.0	45.6	83.0
	1320	56.3	14.5	54.6	25.0	53.3	35.0	52.2	46.0	51.2	56.0	50.3	66.0	49.5	77.0	48.8	88.0
	1390	59.5	15.2	57.8	26.0	56.5	38.0	55.4	48.0	54.4	59.0	53.6	70.0	52.7	81.0	51.0	92.0

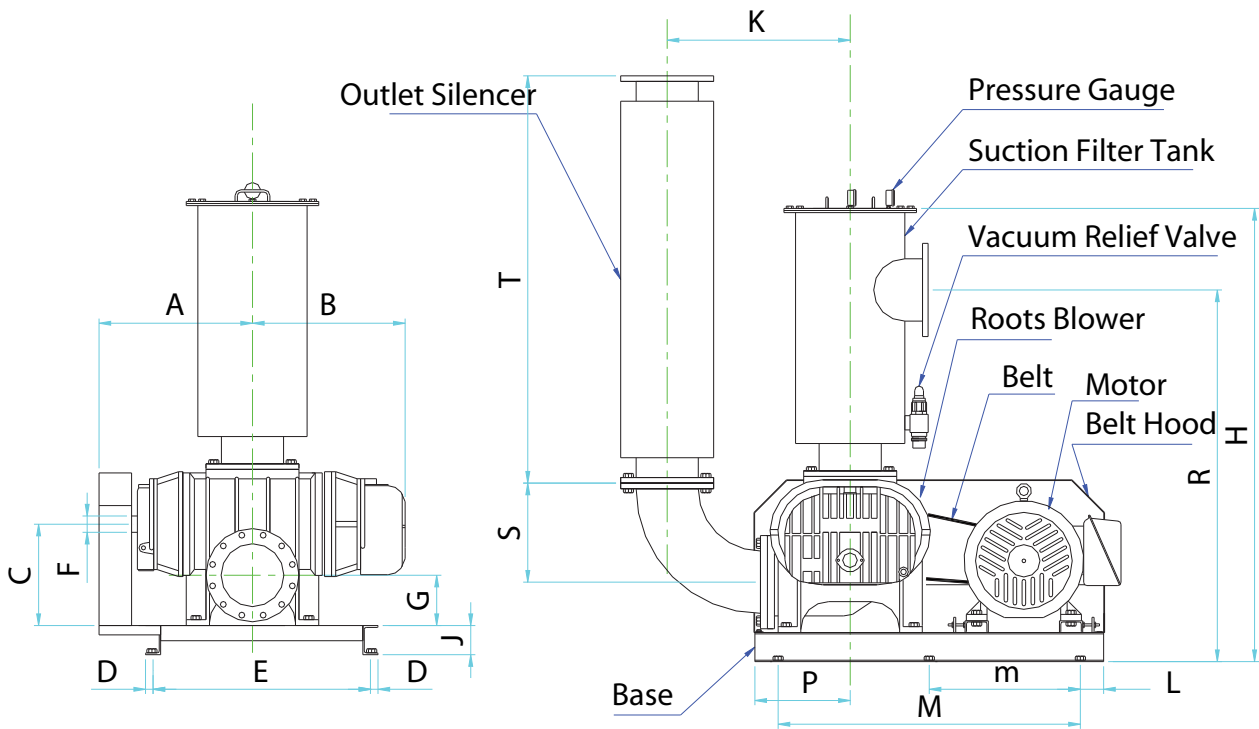
ASS PERFORMANCE TABLE

Model	RPM	Type ASS-250 performance															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
ASS-250	620	33.0	9.11	31.0	15.65	29.5	22.51	28.2	30.02	27.0	35.38	25.9	42.88	25.4	48.24	24.5	53.60
	660	35.5	9.76	33.5	16.62	32.0	23.58	30.6	31.09	29.5	37.52	28.4	45.02	27.4	50.38	26.5	55.74
	700	37.8	10.29	35.9	17.69	34.3	25.73	33.0	32.16	32.0	40.74	30.9	48.24	29.9	54.67	29.2	61.10
	740	40.3	10.83	38.4	18.65	36.8	26.80	35.5	34.30	34.30	42.88	33.3	50.38	32.4	57.89	31.6	65.40
	780	42.8	11.36	40.7	19.72	39.2	27.87	38.0	36.45	36.8	45.02	35.8	52.53	34.8	61.10	34.0	69.67
	830	45.9	12.00	43.8	20.90	42.2	30.00	41.0	38.60	39.9	48.24	38.8	55.74	37.8	64.32	35.2	72.90
	880	48.9	12.65	46.9	22.51	45.3	31.10	44.1	40.74	42.9	50.38	41.9	58.96	41.0	68.61	40.0	78.26
	930	52.0	13.40	50.0	23.58	48.5	32.16	47.3	42.88	46.0	52.53	44.9	62.18	44.6	71.82	43.5	81.46
	990	55.6	14.15	53.6	24.66	52.1	34.3	50.8	46.10	49.6	55.74	48.7	66.46	47.7	77.18	46.5	87.90
	1050	59.3	15.00	57.4	25.73	55.7	36.45	54.5	48.24	53.3	59.00	52.3	69.88	51.4	81.47	50.6	93.06
	1110	63.0	15.75	61.0	27.87	59.4	39.66	58.1	51.46	57.0	62.18	56.0	73.97	55.0	85.76	54.2	97.55
	1180	67.2	16.72	65.3	28.94	63.7	41.80	62.4	54.67	61.3	66.46	60.3	79.33	59.3	91.12	58.4	102.9
	1250	71.5	17.80	69.6	31.09	68.0	45.02	66.7	58.81	65.5	69.68	64.5	83.62	63.6	96.48	62.7	109.3
	1320	75.8	18.76	73.9	32.16	72.3	47.17	71.0	60.0	69.8	73.97	68.8	87.9	67.9	101.5	67.1	115.1
1390	80.1	19.72	78.0	34.3	76.5	49.31	75.5	63.25	74.1	78.26	73.1	93.26	72.0	108.3	71.2	123.3	

Model	RPM	Type ASS-300A performance															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
ASS-300A	700	51.6	14.1	49.0	24.2	46.9	35.1	45.1	44.0	43.7	55.7	42.2	65.9	40.7	76.1		
	850	63.9	17.0	60.7	29.2	58.0	42.6	55.9	53.3	54.1	67.7	52.3	80.0	50.4	92.3		
	1000	76.8	19.5	74.0	34.0	72.0	47.3	70.1	63.7	68.7	76.9	67.3	92.6	65.8	108.3		
	1150	90.0	22.5	86.7	39.1	84.4	54.4	82.1	73.2	80.7	88.4	78.9	106.4	77.2	124.4		
	1300	101.6	25.1	99.0	43.1	96.9	63.2	95.1	80.4	93.5	99.1	92.2	117.8	90.9	136.4		
	1450	115.5	28.0	112.6	48.1	110.1	70.5	108.3	89.7	106.4	110.6	104.8	134.0	103.2	157.5		
	1550	126.0	30.0	120.5	51.4	120.2	75.4	117.9	95.9	115.6	122.4	114.2	146.1	112.7	169.8		

Model	RPM	Type ASS-300 performance															
		1000mmAq		2000mmAq		3000mmAq		4000mmAq		5000mmAq		6000mmAq		7000mmAq		8000mmAq	
		Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw	Qs	kw
ASS-300	600	71.2	18.1	68.0	33.8	65.3	48.1	62.6	61.4	60.5	73.6	58.5	84.9	56.8	95.5	55.3	105.2
	700	85.5	20.8	81.4	39.2	78.7	55.9	76.0	71.4	73.9	85.6	71.9	98.8	70.2	111.1	68.7	122.5
	800	98.5	23.7	94.8	44.7	92.1	63.8	89.4	81.4	87.3	97.7	85.3	112.7	83.6	126.8	82.1	139.8
	900	111.5	26.6	108.2	50.1	105.6	71.6	102.9	91.4	100.8	109.7	98.8	126.7	97.1	142.4	95.6	157.1
	1000	124.5	29.6	121.6	57.0	118.9	80.9	116.2	102.9	114.1	123.3	112.1	142.1	110.4	159.6	108.9	176.0
	1100	138.1	34.5	135.1	63.9	132.4	90.2	129.7	114.4	127.6	136.8	125.6	157.6	123.9	176.9	122.4	194.8
	1200	151.7	39.5	148.5	70.8	145.8	99.5	143.1	125.9	141.0	150.4	139.0	171.9	137.3	194.1	135.8	213.7
	1300	165.3	44.5	162.1	83.6	159.4	108.8	156.7	137.4	154.6	164.0	152.6	188.4	150.9	211.3	149.4	232.6

ASSV STRUCTURE DIMENSION



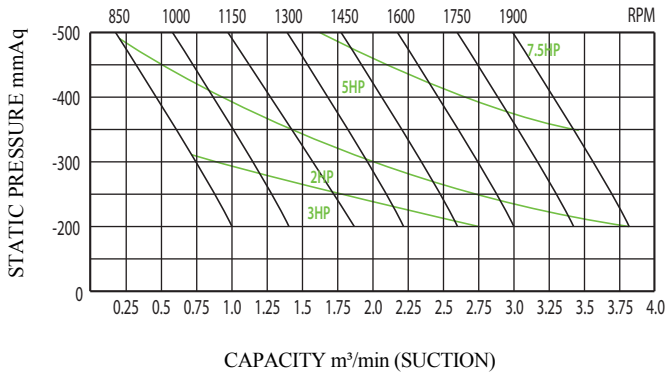
Model	A	B	C	D	E	F	G	H	J	K	L	M	m	P	R	S	T
ASSV-50	302	278	175	50	350	28	108	836	75	294	37.5	795	-	245	100	689	592
ASSV-65	323	308	173	50	350	28	107	933	75	289	37.5	795	-	245	150	789	596
ASSV-80	406	320	213	50	450	38	114	1098	75	332	37.5	945	-	290	180	943	796
ASSV-100	467	370	225	25	550	38	120	1286	100	376	100	760	-	240	180	993	796
ASSV-125A	440	395	265	25	550	48	143	1294	100	477	100	900	-	238	250	1119	1260
ASSV-125	500	455	265	25	550	48	163	1285	100	479	100	900	-	238	250	1110	1260
ASSV-150	566	510	295	25	550	48	172	1932	100	517	100	900	-	238	250	1215	1264
ASSV-200A	540	497	355	32.5	935	65	194	1680	125	691	100	-	650	410	250	1480	1644
ASSV-200	620	547	405	32.5	935	65	198	1780	125	701	100	-	650	410	250	1380	1644
ASSV-250	485	622	435	32.5	935	65	216	1945	125	788	100	-	650	410	250	1945	1748
ASSV-300	758	685	550	35	1035	95	300	2510	250	1062	235	-	1000	560Z	300	2260	1848

ASSV ENTITY PICTURE

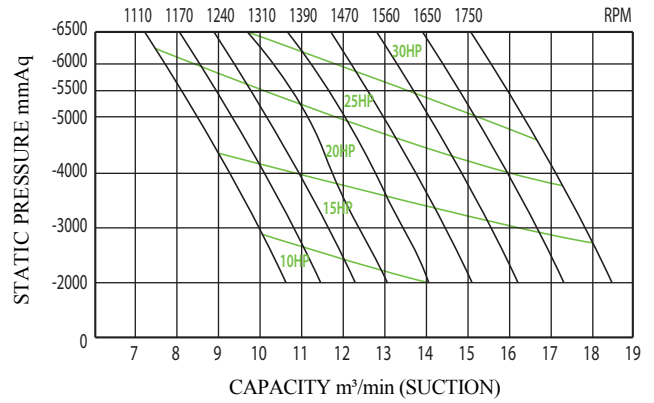


ASSV PERFORMANCE CHART

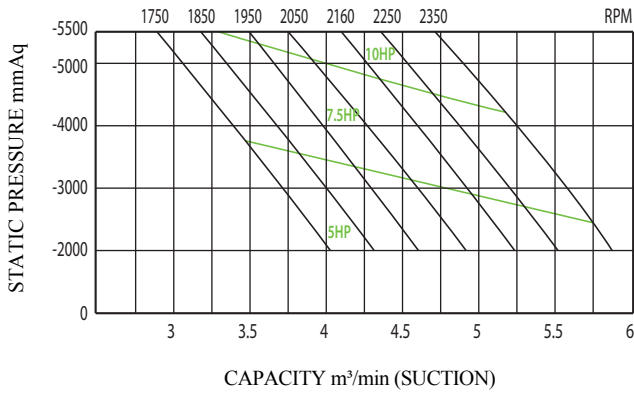
ASSV-50



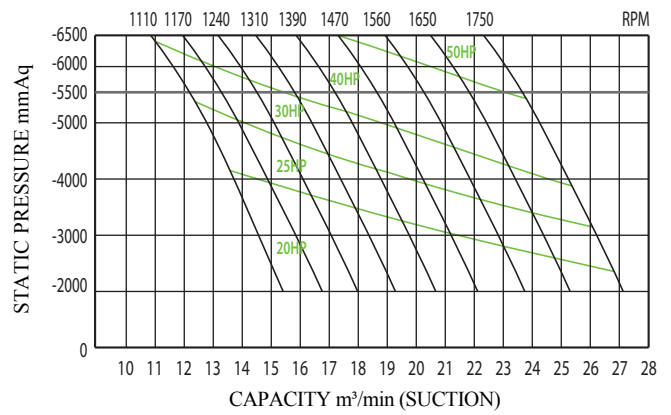
ASSV-125A



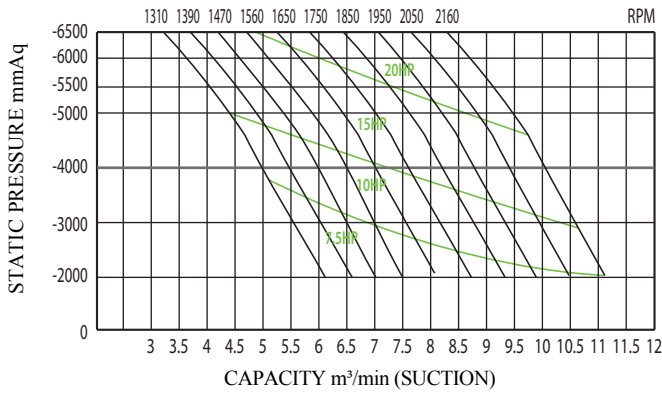
ASSV-65



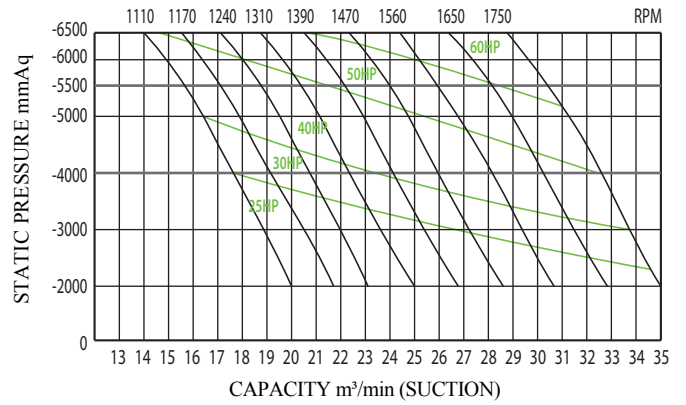
ASSV-125



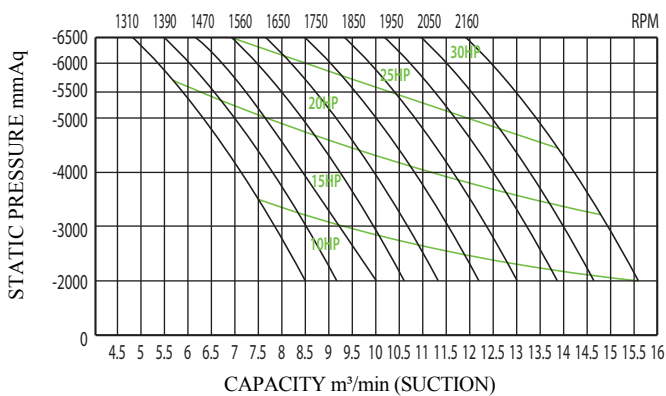
ASSV-80



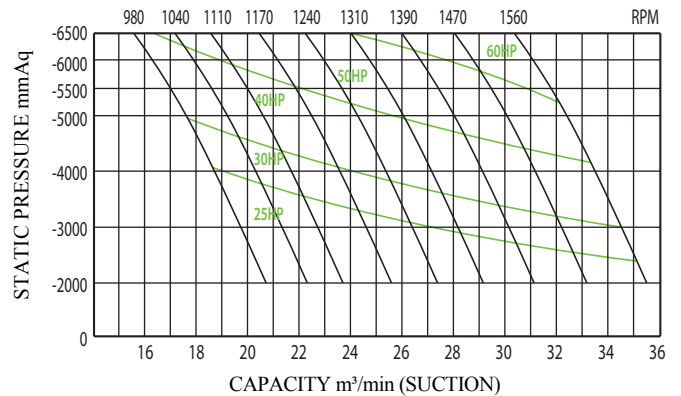
ASSV-150



ASSV-100

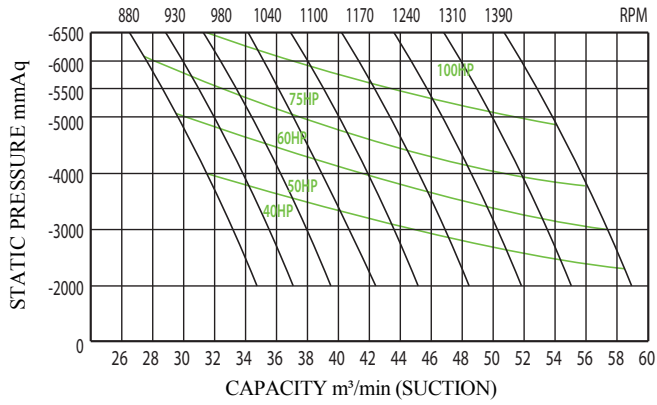


ASSV-200A

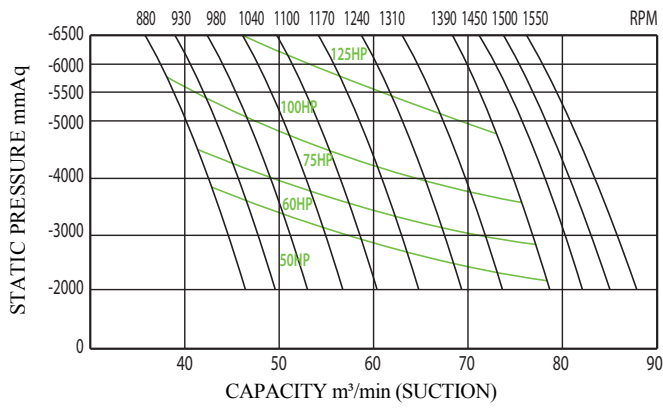


ASSV PERFORMANCE CHART

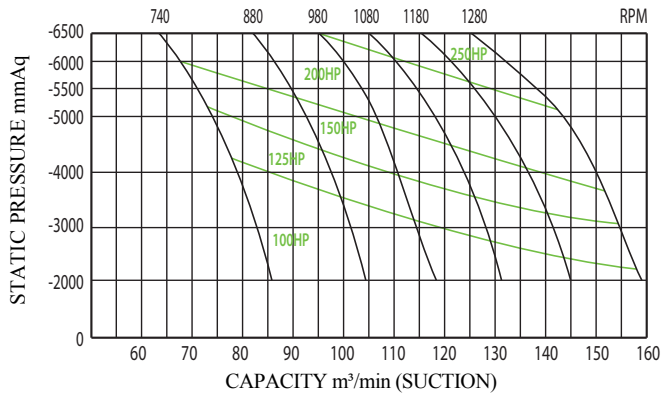
ASSV-200



ASSV-250

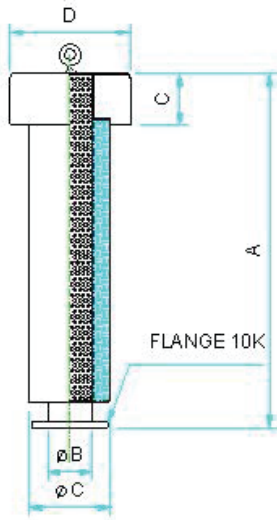


ASSV-300



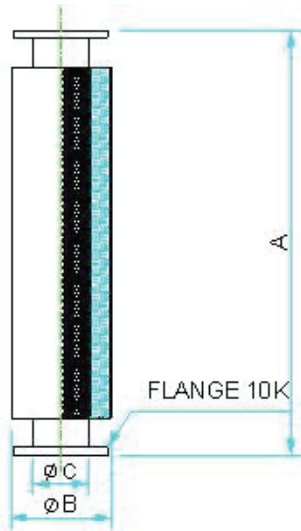
DEMENSION OF ACCESSORIES

Inlet Silencer



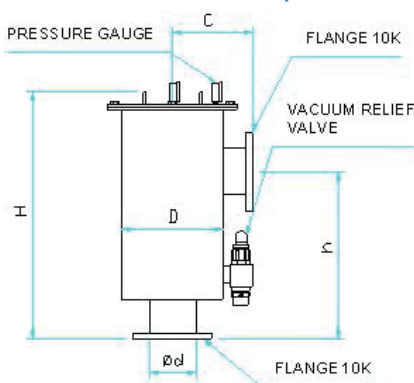
TYPE	A	φB	φC	D	E	Flange	FITTING MODEL
SS50	546	60	140	220	80	JIS 2" 10K	ASS-50
SS65	548	76	165	235	85	JIS 2½" 10K	ASS-65
SS80	818	89	217	310	145	JIS 3" 10K	ASS-80
SS100	818	114	240	350	160	JIS 4" 10K	RS-100
SS125	1310	139	280	400	185	JIS 5" 10K	ASS-125;ASS-125A
SS150	1312	165	300	450	190	JIS 6" 10K	RS-150
SS200	1500	216	400	500	210	JIS 8" 10K	ASS-200;ASS-200A
SS250	1700	267	400	500	210	JIS 10" 10K	ASS-250
SS300	1824	319	550	560	210	JIS 12" 10K	ASS-300;ASS-300A

Outlet Silencer



TYPE	A	φB	φC	Flange	FITTING MODEL
DS50	592	60	140	JIS 2" 10K	ASS-50
DS65	596	76	165	JIS 2½" 10K	ASS-65
DS80	796	89	217	JIS 3" 10K	ASS-80
DS100	796	114	240	JIS 4" 10K	ASS-100
DS125	1260	139	280	JIS 5" 10K	ASS-125;ASS-125A
DS150	1264	165	300	JIS 6" 10K	ASS-150
DS200	1644	216	400	JIS 8" 10K	ASS-200;ASS-200A
DS250	1748	267	400	JIS 10" 10K	ASS-250
DS300	1848	319	550	JIS 12" 10K	ASS-300;ASS-300A

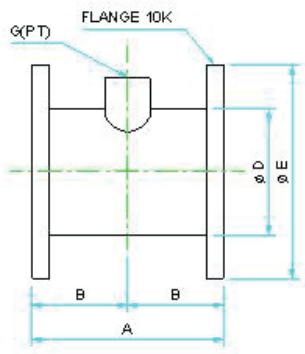
Suction Filter Tank (for ASSV)



TYPE	H	h	C	φD	φd	Flange	FITTING MODEL
FT50	530	340	222	244	60	JIS 2" 10K	ASSV-50
FT65	630	440	222	244	76	JIS 2½" 10K	ASSV-65
FT80	730	525	222	244	89	JIS 3" 10K	ASSV-80
FT100	730	525	240	285	114	JIS 4" 10K	ASSV-100
FT125	730	505	280	360	139	JIS 5" 10K	ASSV-125;ASSV-125A
FT150	880	595	280	360	165	JIS 6" 10K	ASSV-150
FT200	1000	650	335	470	216	JIS 8" 10K	ASSV-200;ASSV-200A
FT250	1200	800	335	470	267	JIS 10" 10K	ASSV-250
FT300	1400	1000	405	600	319	JIS 12" 10K	ASSV-300

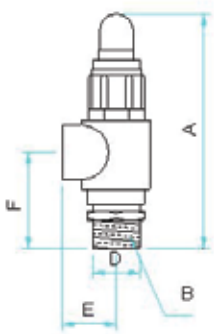
DIEMENSION OF ACCESSORIES

T-Joint



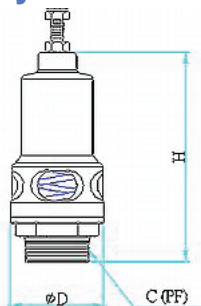
TYPE	A	B	φD	φE	G	Flange	FITTING MODEL
HJ50	150	75	60.5	155	1¼"	JIS 2" 10K	ASS-50
HJ65	150	75	76.3	175	1¼"	JIS 2½" 10K	ASS-65
HJ80	180	90	89.1	185	1¼"	JIS 3" 10K	ASS-80
HJ100	180	90	114.3	210	1¼"	JIS 4" 10K	ASS-100
HJ125	250	125	131.8	250	1¼"	JIS 5" 10K	ASS-125;ASS125A
HJ150	250	125	165.2	280	1¼"	JIS 6" 10K	ASS-150
HJ200	250	125	216.3	330	1¼"	JIS 8" 10K	ASS-200;RS-200A
HJ250	250	125	267.4	400	1¼"	JIS 10" 10K	ASS-250
HJ300	300	150	318.5	445	1¼"	JIS 12" 10K	ASS-300;ASS-300A

Vacuum Relief Valve



TYPE	A	B	C	D	E	F	WT (kg)	FITTING MODEL
VSV 1¼"	208	1¼"	1¼"	32	51	83	1.87	ASSV-40,50,65,80
VSV 2"	266	2"	2"	50	67	103	3.91	ASSV-100,125,150,200,200A,250,300

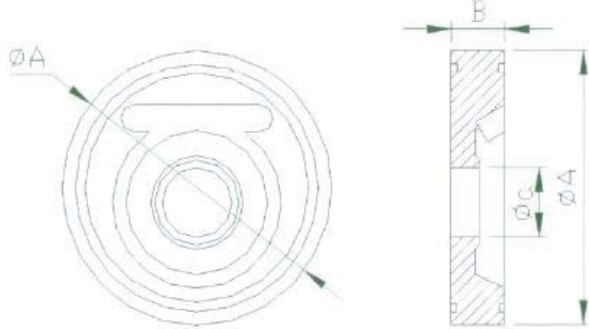
Safety Valve



TYPE	H	φD	C	FITTING MODEL
PP 1¼"	182	71.5	1¼"	ASS-40,50,65
PP 2"	197	85	2"	ASS-80,100,125,125A,150
PP3"	221	115	3"	ASS-200,200A,250,300,300A

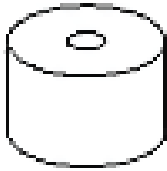
DIEMENSION OF ACCESSORIES

Check Valve



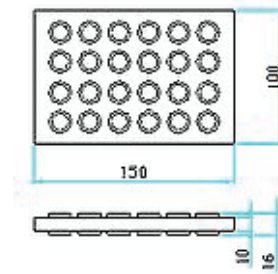
FITTING MODEL	ϕA	ϕa	B
ASS-40,50	101	26	20
ASS-65	124.5	36	24
ASS-80	133	45	24
ASS-100	157	65	22
ASS-125;ASS-125A	187	88	24
ASS-150	217	110	29
ASS-200;ASS-200A	269	138	27
ASS-250	330	186	27
ASS-300;ASS-300A	380	212	32

Vibration Isolator



$\text{Ø}50\text{mm} \times 75\text{mm}$

FITTING MODEL: ASS-40,50,65,80,100



FITTING MODEL: ASS-125,125A,150,200,200A,250,300

ASW TYPE-PERFORMANCE TABLE

TYPE	Bore	rpm	0.8kgf/cm ²		0.9kgf/cm ²		1.0kgf/cm ²		Cooling Water Volume
	Inch(mm)		m ³ / min	kw	m ³ / min	kw	m ³ / min	kw	L / min
ASW-50	2(50)	1150	0.98	4.08	0.89	4.51	0.8	4.94	4
		1350	1.52	4.43	1.43	4.59	1.34	5.02	
		1550	2.07	5.13	2	5.34	1.93	5.55	
ASW-65	2½(65)	1150	2.12	5.62	2.02	6.21	1.92	6.8	6
		1350	2.8	6.59	2.69	7.28	2.58	7.97	
		1550	3.49	7.56	3.38	8.38	3.27	9.2	
ASW-80	3(80)	1100	3.12	9.07	2.93	10.19	2.74	11.31	8
		1300	4.29	10.08	4.1	11.2	3.91	12.32	
		1500	5.21	11.88	5.02	13.34	4.83	14.8	
ASW-100	4(100)	1000	4.02	11.18	3.73	12.23	3.44	13.28	10
		1200	5.7	13.41	5.41	14.67	5.12	15.93	
		1400	7.38	15.69	7.09	17.2	6.8	18.71	
ASW-125A	5(125)	1000	6.51	18.37	6.11	21.77	5.71	25.17	12
		1200	8.84	21.3	8.44	24.65	8.04	27.95	
		1400	12.26	25.1	10.66	28.8	10.06	32.5	
ASW-125	5(125)	1000	10.54	25.09	10.11	28.59	9.68	32.09	12
		1200	13.9	29.76	13.47	33.26	13.04	36.76	
		1400	17.69	33.88	17.26	37.38	16.83	40.88	
ASW-150	6(150)	1050	14.59	29	14.19	33.5	13.79	38	15
		1200	19.03	33.4	18.63	38	18.23	42.6	
		1400	23.48	37.4	23.08	41.9	22.68	46.4	
ASW-200A	8(200)	930	24.17	48.7	23.77	54.6	23.37	60.5	20
		1110	30.58	56.3	30.16	62.1	29.74	67.9	
		1250	35.64	65	35.22	72.7	34.8	80.4	
ASW-250	10(250)	930	43.3	81.4	42.5	91	41.7	100.6	25
		1110	54	97.6	53	109.4	52	121	
		1250	62.7	109.4	61.8	122.3	60.9	135.2	
ASW-300	12(300)	800	82.1	139.8	80.6	152.8	79.1	165.8	30
		1000	108.9	176	107.4	192.4	105.9	208.8	
		1200	135.8	213.7	134.3	233.3	132.8	252.9	