



HANIL//ROOTS//BLOWER

HANIL
ROOTS TYPE
ARJ SERIES
BLOWER



PROFILE

HANIL Machinery Industry Co.Ltd. established since 1978, devoted to design and manufactures Three-Lobe Roots Type Blower.

HANIL sales blowers worldwide and win great satisfaction from our long-term cooperation customers and OEM partners.

In spite of competitive market, HANIL erect solid business position of Roots Type Blower manufacturing, we have OEM and ODM ability and qualified by ISO and CE.

VISION

Provide more competitive Roots Type Blowers, make win win with our customers.

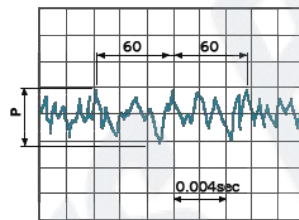


HANIL Roots Type Blower

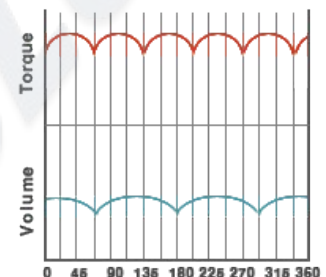
HANIL Roots Type Blower is the innovative positive displacement rotary blower with straight three-lobe or twist three-lobe. All the main body, side cover and rotors machining by CNC and inspected by 3D instrument. Every each rotor qualified by dynamic balancing machine. Therefore, we keep our good quality of lower noise, lower vibration and stable performance.

ARJ Straight Three Lobe Blower Feature

The three-lobe blower is less down pressure variation, vibration and noise, air flow is stable than Two-Lobe Blower. Also, save more power energy lost.



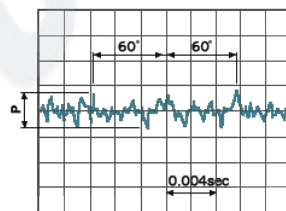
Pressure Fluctuation Curve



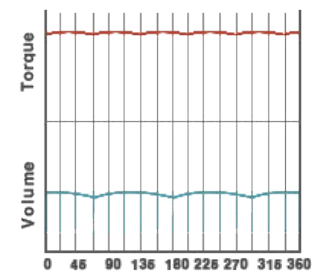
Discharge Pulsation Curve

ARJ Twist Three Lobe Blower Feature

The three-lobe twist blower greatly reduced impulse, vibration and noise(5-8dB), and axial thrust by sucking and exhaling air without any pressure variation. Also, save more power energy lost.



Pressure Fluctuation Curve



Discharge Pulsation Curve

Application Area

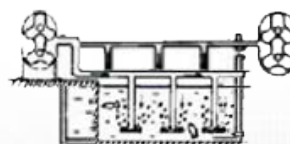
Wastewater Treatment



Particle Conveyance



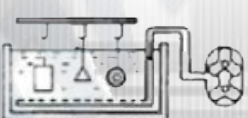
Farming Pond



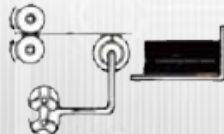
Cereal Products Conveyance



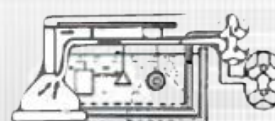
Air Supply for Electro Bath



Paper Feeding



Absorption Transporter



Vacuum Packing for Food



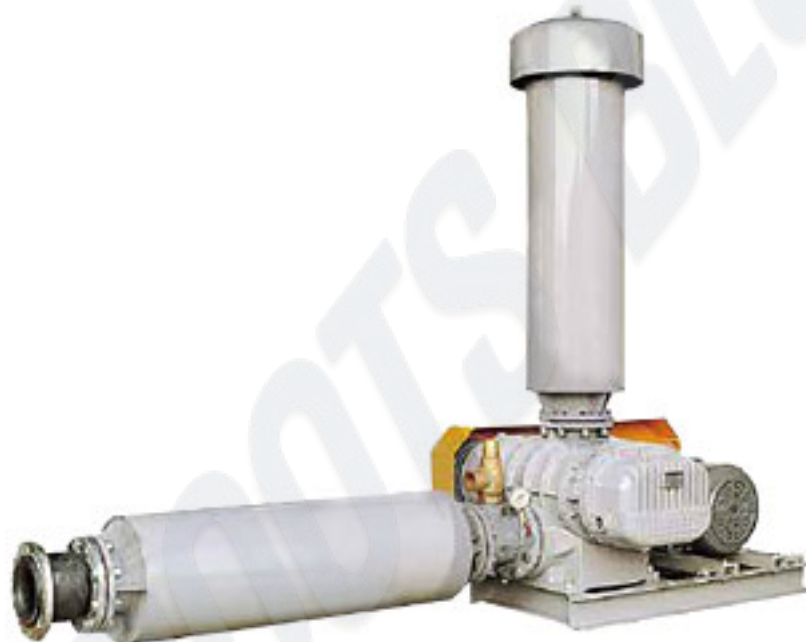
**Other application will not showing out. Please contact HANIL staff.

HANIL

Roots Type Pressure Blower Complete Set

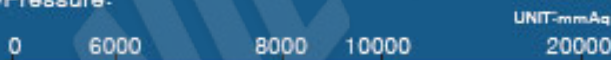
Model

ARJ 0400	ARJ 0500	ARJ 0650	ARJ 0802	ARJ 1002	ARJ 1251	ARJ 1501
ARJ 2001	ARJ 2501	ARJ 3001	ARJ 3002	ARJ 3501	ARJ 4001	



Advantage

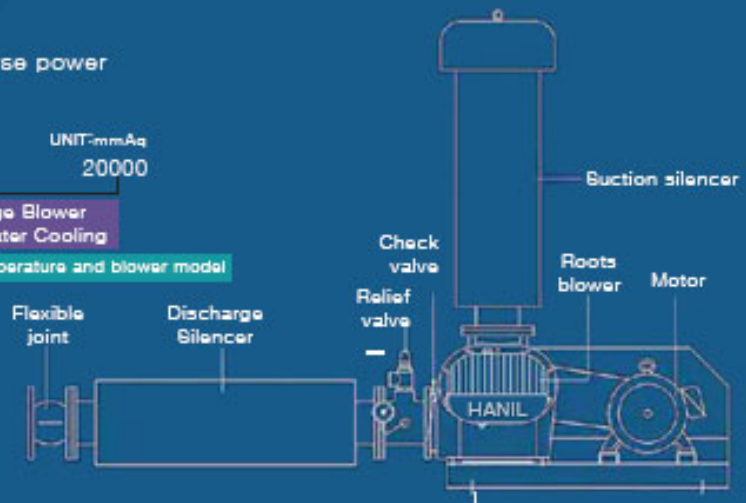
- *Wider range for volume, pressure & horse power
- *Bore 40mm to 500mm (1.5" to 20")
- *Pressure:



Air Cooling Air Cooling & Water Cooling Water Cooling 2 Stage Blower with Water Cooling

6000~8000mmAq cooling type depend at local temperature and blower model

- *Horse power : 0.5 to 1000HP
- *Capacity : 0.5 to 560m³/min

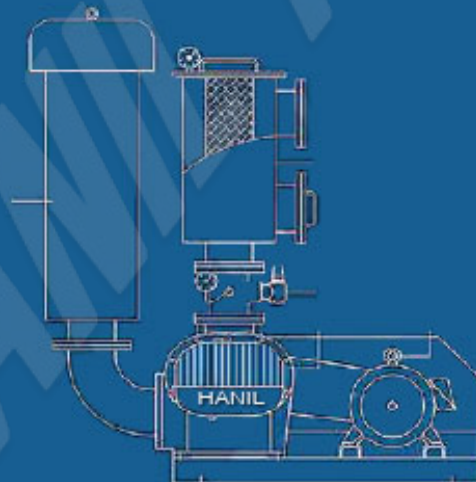


HANIL

Roots Type Vacuum Pump Complete Set

Model

ARJ 0400	ARJ 0500	ARJ 0650	ARJ 0802	ARJ 1002	ARJ 1251	ARJ 1501
ARJ 2001	ARJ 2501	ARJ 3001	ARJ 3002	ARJ 3501	ARJ 4001	

Advantage

- Wider range for volume, pressure & horse power
- Bore 40mm to 500mm (1.5" to 20")
- Vacuum:

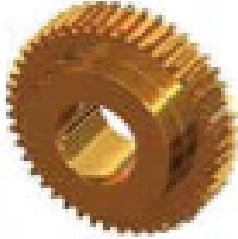
UNIT-mmAq	
0	9000
5000	
Air Cooling	2 Stage Blower with Water Cooling

- Horse power : 0.5 to 700HP
- Capacity : 0.5 to 560m³/min

5 Main Parts of ARJ Blower

◆ Gear(Timing):

Forged steel gears with hardened and ground spur teeth to reduced vibrations and ensures accurate rotor to rotor timing for smooth and efficient operation.

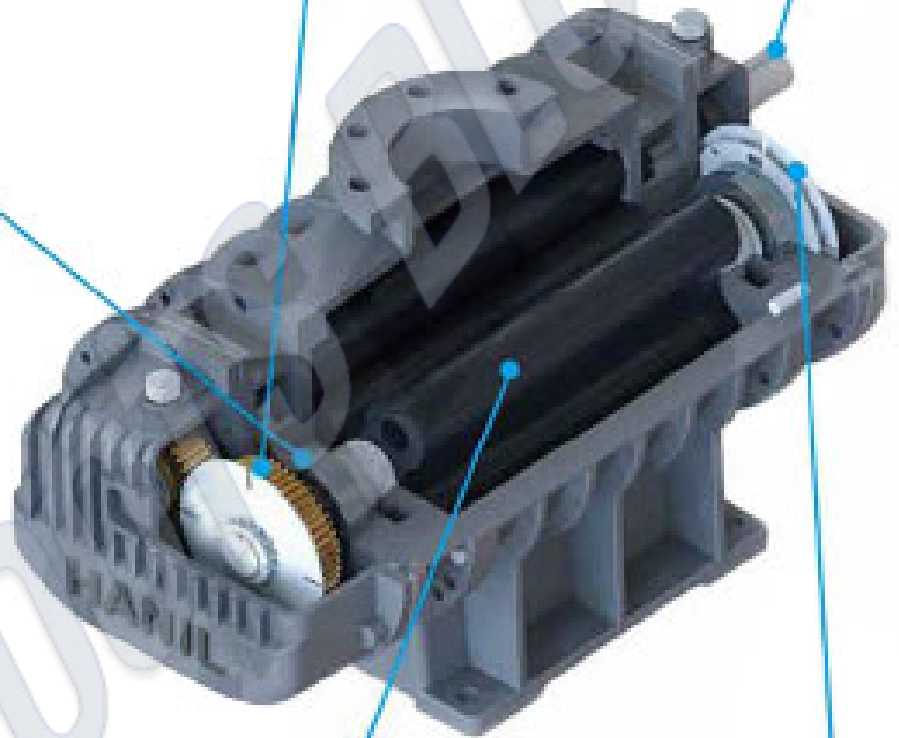


◆ Shaft:

Shaft of Rotor is alloy steel forgings that allow higher operating pressures and rotation speeds.

◆ Bearings:

All HANIL Blower units are using SKF bearings for long life, Anti-friction efficiency is qualified.



Twist Impeller



Straight Impeller

◆ Impeller(Twist & Straight):

Highest performance, providing with trouble-free performance and durability.

◆ Seal:

Lower-wear, non-contacting, labyrinth-type seals ensure performance and long life.

HOW TO USE PERFORMANCE CHART

1. Air volume is general shown in terms of

- (1) Standard state (Qs) : At 20°C, 10332mmAq, and RH. 65%
- (2) Normal state (Qn) : At 0°C, 10332mmAq, and RH. 0%

2. Performance table shown the capacity at the standard suction state.

3. Performance table shown the pressure at the static pressure.

4. Volume conversion formula

$$Q_2 = Q_1 \cdot \frac{P_1}{P_2} \cdot \frac{T_2}{T_1}$$

- Q₁ (m³/min) : Air volume in P₁ (mmAq), T₁ (°K)
- Q₂ (m³/min) : Air volume in P₂ (mmAq), T₂ (°K)

5. Pressure conversion formula

(1) For pressure

$$P_s = \left(\frac{10332 + P_2}{10332 + P_1} - 1 \right) \cdot 10332$$

(2) For vacuum

$$P_s = \left(\frac{10332 + P_2}{10332 + P_1} - 1 \right) \cdot 10332$$

- P₁ : Suction static pressure
- P₂ : Discharge static pressure
- P_s : Static pressure in catalog

6. Example operating specifications:

- Air volume 5.16m³/min
- Discharge Static Pressure +4260mmAq
- Suction Static Pressure -500mmAq
- Suction Temperature 40°C

CHOICE

Air volume (5.16m³/min) converts to STP state

$$Q = 5.16 \cdot \frac{10332 - 500}{10332} \cdot \frac{273 + 20}{273 + 40} = 4.60 \text{ m}^3/\text{min}$$

Static pressure changed to:

$$P_s = \left(\frac{10332 + 4260}{10332 - 500} - 1 \right) \cdot 10332 = 5000 \text{ mmAq}$$

You can find the LT-080 with 1300RPM and 10 HP can fits the specification at the performance or the performance table.

7. As the selection covers two models, you can select the small models with for limited budget or the large models with lower noise and lower RPM.

Please refer them noise performance specification.

Performance Chart Conversion

◆ **CAPACITY**

	1 m ³ /min	1 m ³ /h	1 l/min	1 ft ³ /min
1 m ³ /min	1	60	1000	35.31
1 m ³ /h	0.017	1	16.67	0.589
1 l/min	0.001	0.06	1	0.035
1 ft ³ /min	0.028	1.699	28.32	1

◆ **POWER**

	1 kg-m/sec	1 kW	1 SP	1 PH
1 kg-m/sec	1	0.01	1000	0.013
1 kW	101.97	1	16.67	1.360
1 SP	76.038	0.06	0.746	1.014
1 PH	75	1.699	0.736	1

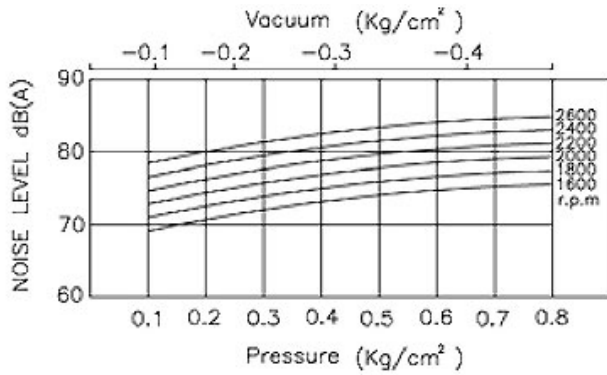
◆ **PRESSURE**

	1 mbar	1 Pa	1 atm	1 lbf/in ²	1 kgf/cm ²	1 in-Hg	1 mmAq
1 mbar	1	10 ²	9.869x10 ⁻⁴	1.45x10 ⁻²	1.02x10 ⁻³	2.953x10 ⁻²	10.197
1 Pa	0.01	1	9.869x10 ⁻⁶	1.45x10 ⁻⁴	1.02x10 ⁵	2.953x10 ⁻⁴	0.102
1 atm	1.013x10 ³	1.013x10 ⁵	1	14.7	1.033	29.92	1.033x10 ⁴
1 lbf/in ²	68.95	6.895x10 ⁻²	6.805x10 ⁻²	1	7.03x10 ⁻²	2.036	7.03x10 ²
1 kgf/cm ²	9.807x10 ²	9.807x10 ⁴	0.968	14.22	1	28.96	104
1 in-Hg	33.86	3.386x10 ³	3.342x10 ⁻²	0.491	3.45x10 ⁻²	1	3.45x10 ³
1 mmAq	9.807x10 ⁻²	9.807	9.677x10 ⁻⁵	1.42x10 ⁻³	10 ⁻⁴	2.896x10 ⁻³	1

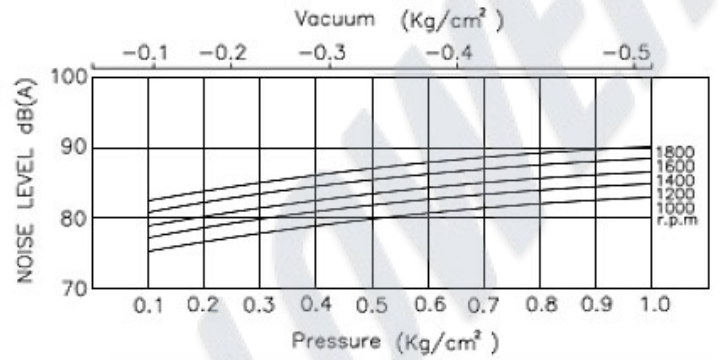
11 Noise Level

ARJ Noise Level

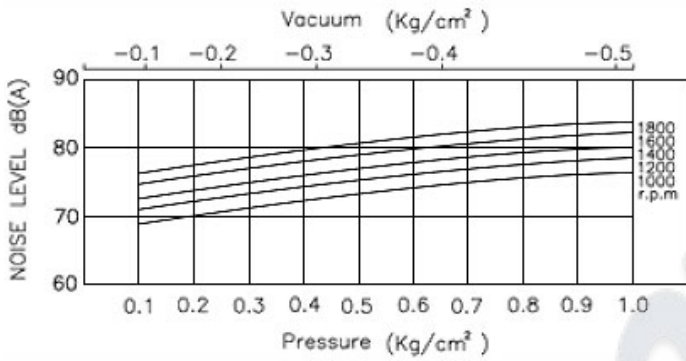
ARJ 0400



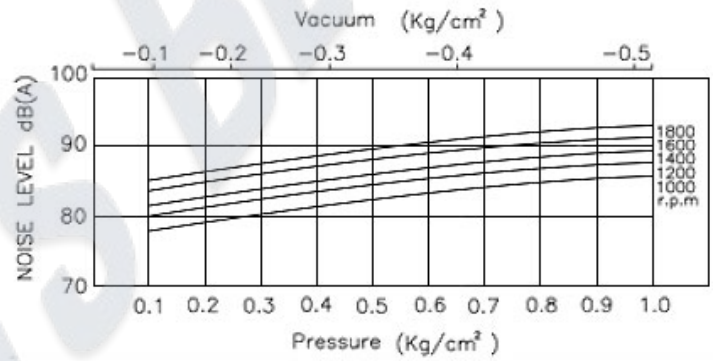
ARJ 1002



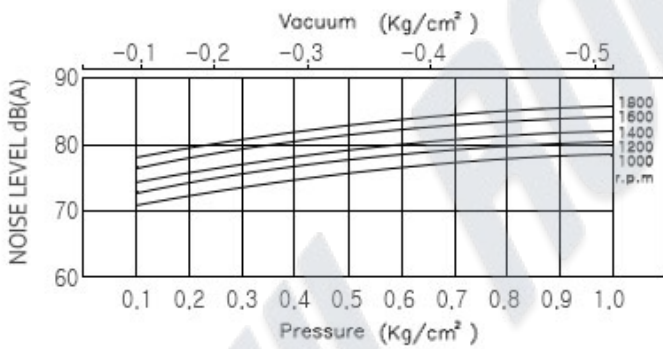
ARJ 0500



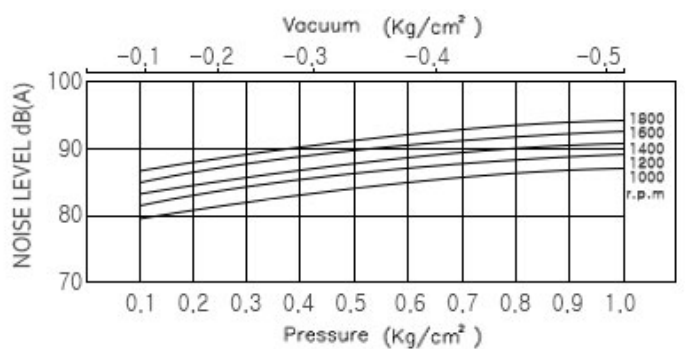
ARJ 1250



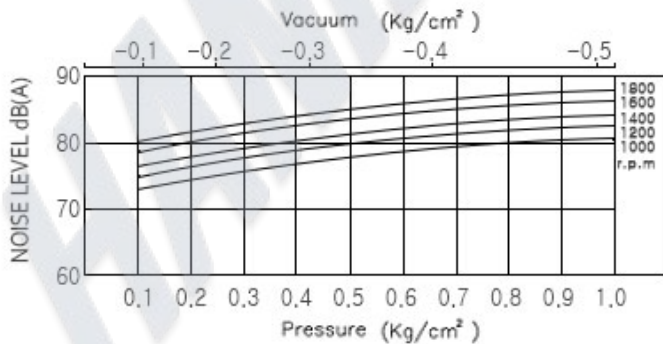
ARJ 0650



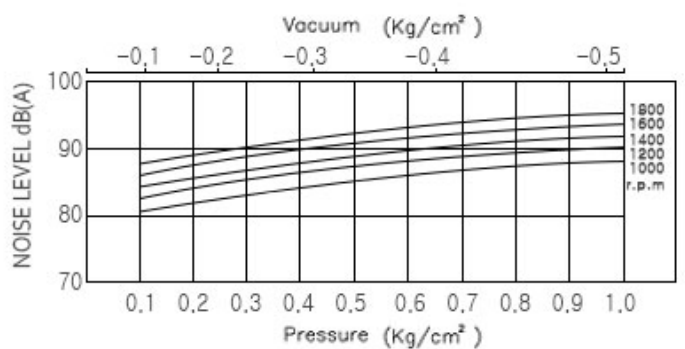
ARJ 1251



ARJ 0802



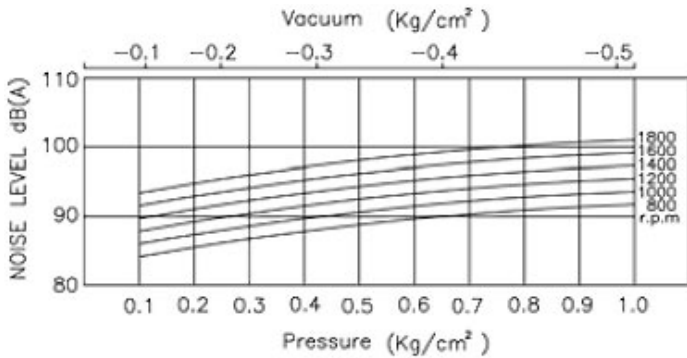
ARJ 1501



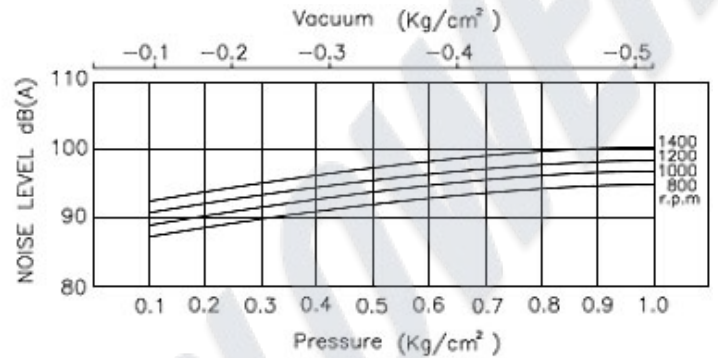
- * Noise Level measured at distance 1meter for the blower fitted with standard silenced
- * Noise Level maybe different according to the extend pipe length and ambient condition

ARJ Noise Level

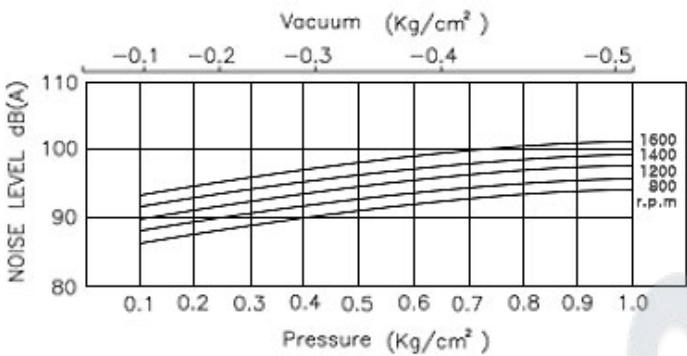
ARJ 2001



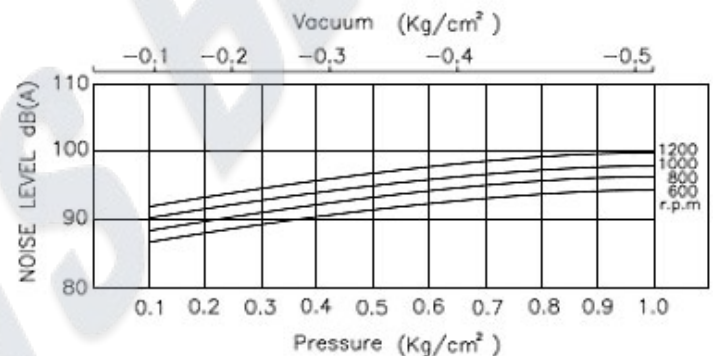
ARJ 3001



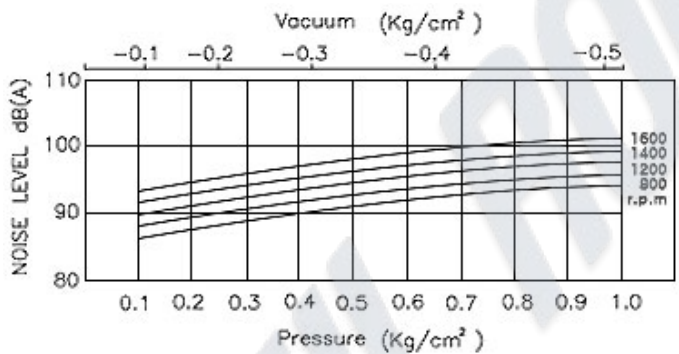
ARJ 2002



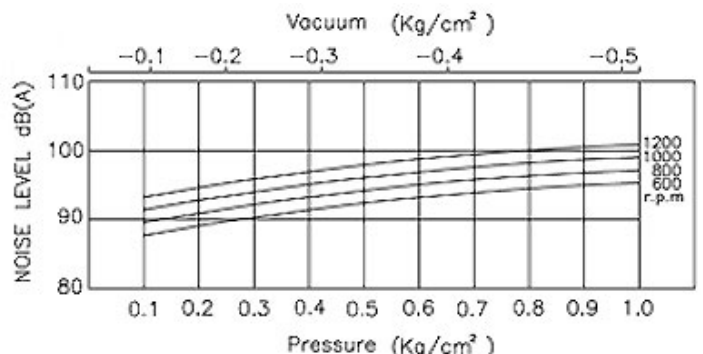
ARJ 3002



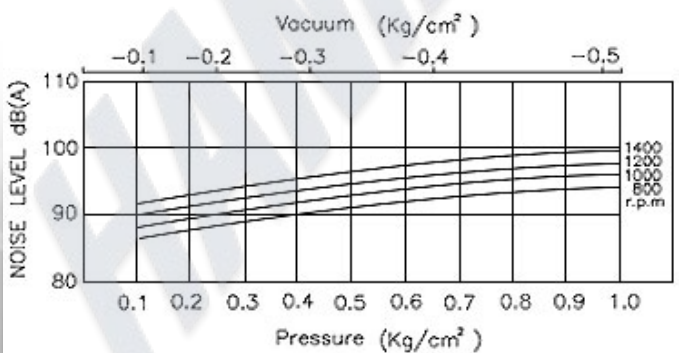
ARJ 2501



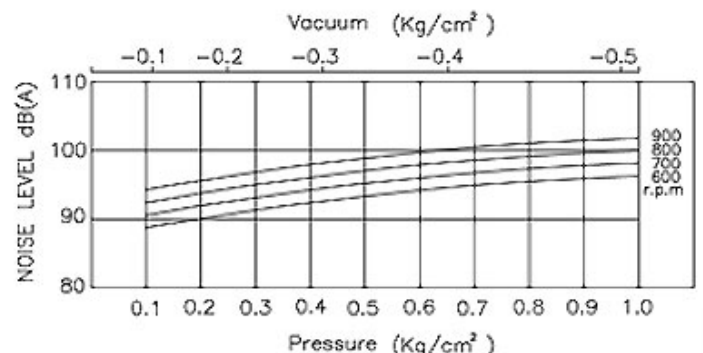
ARJ 3501



ARJ 2502



ARJ 4001

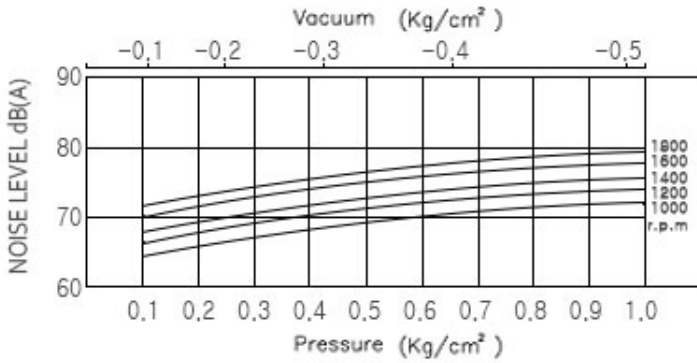


* Noise Level measured at distance 1meter for the blower fitted with standard silenced
 * Noise Level maybe different according to the extend pipe length and ambient condition

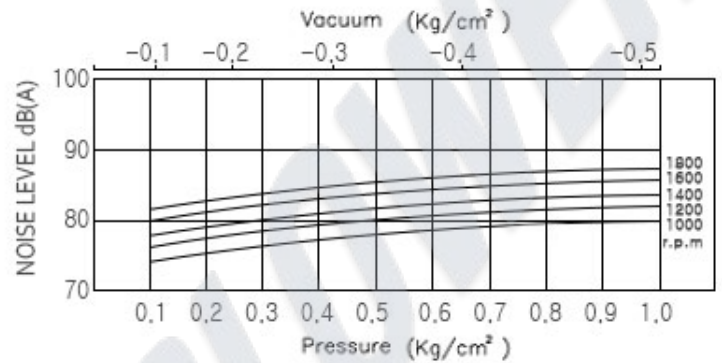
13 Noise Level

TRJ Noise Level

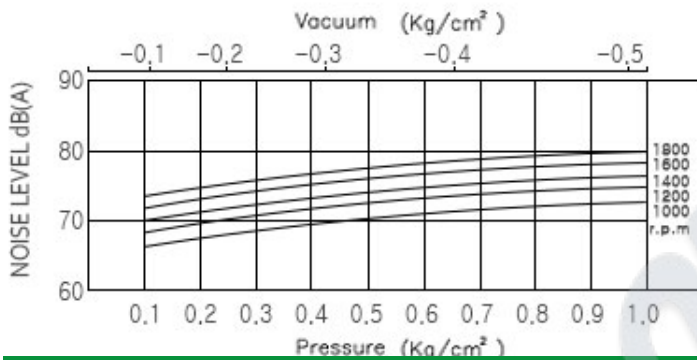
TRJ 0500



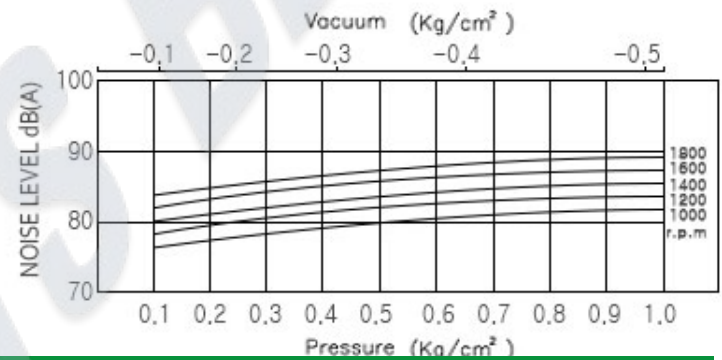
TRJ 1251



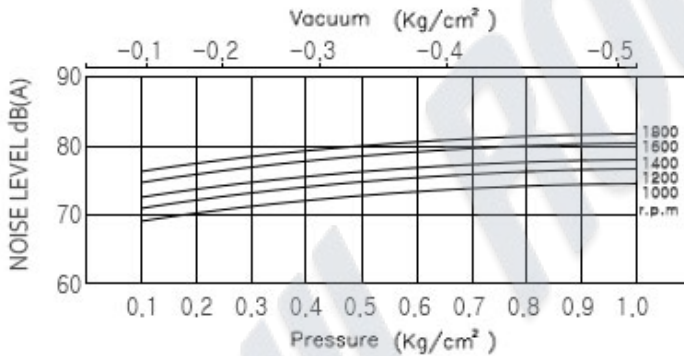
TRJ 0650



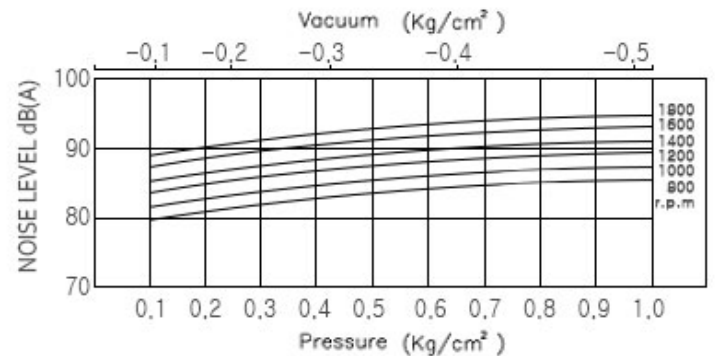
TRJ 1501



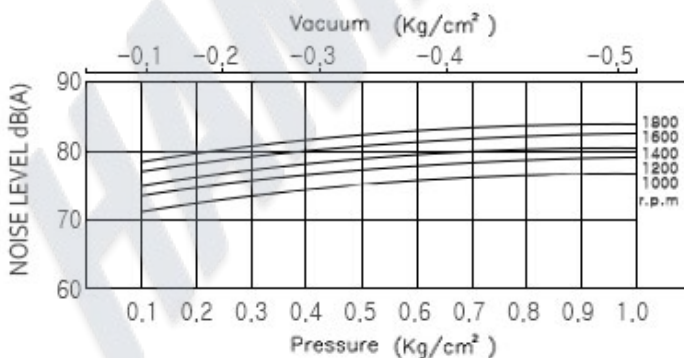
TRJ 0802



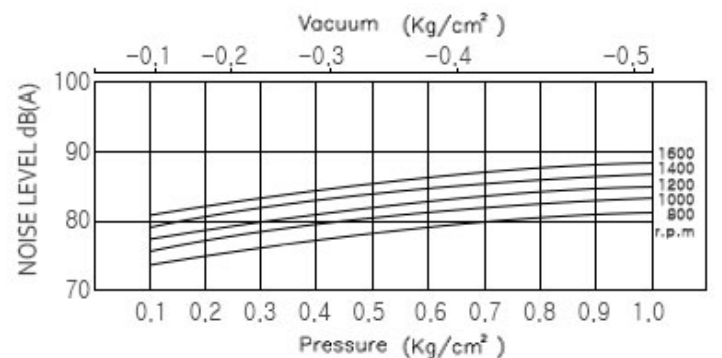
TRJ 2001



TRJ 1002



TRJ 2501

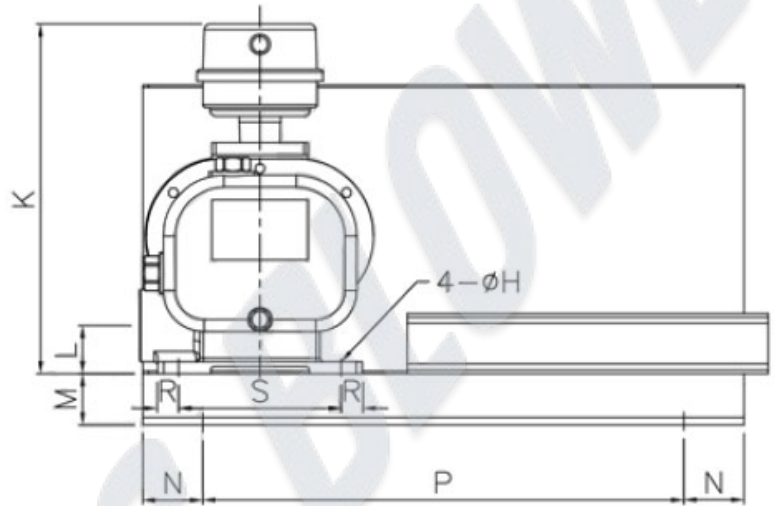
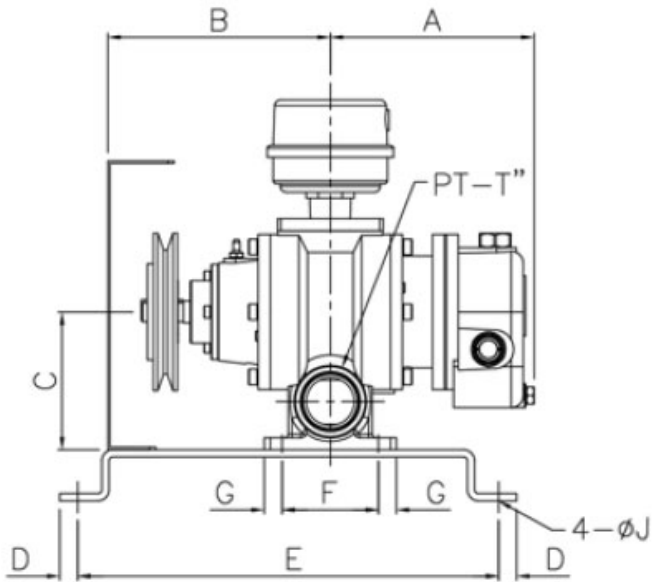


* Noise Level measured at distance 1meter for the blower fitted with standard silencer

* Noise Level maybe different according to the extend pipe length and ambient condition

Dimensions and Weights

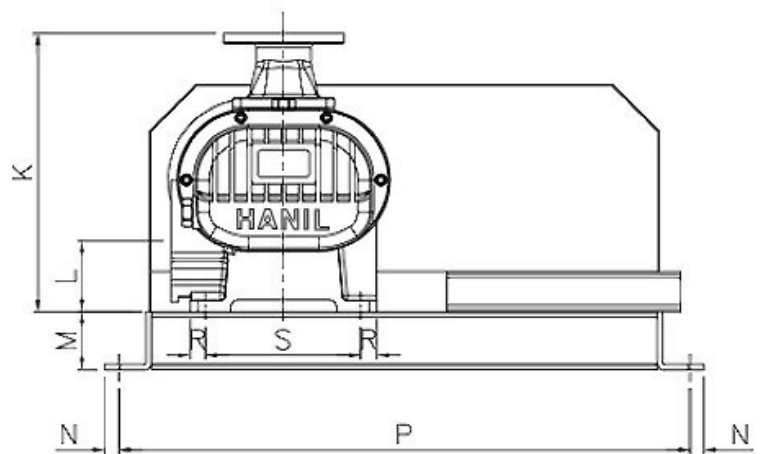
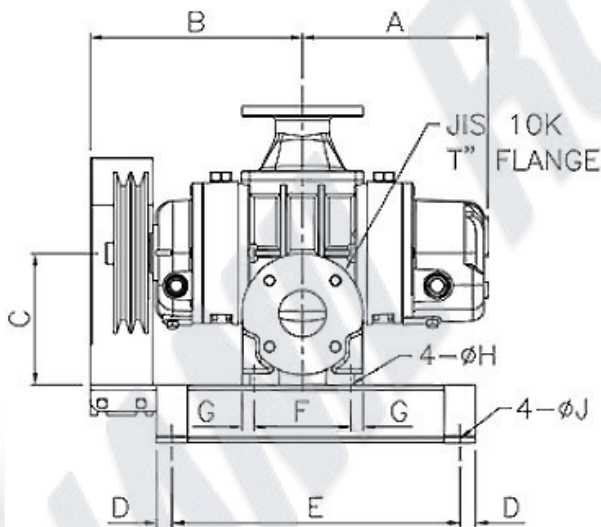
ARJ 0400



Wt.(Kgs):Main Body Weight
Unit:mm

MODEL	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	Wt(Kgs)
ARJ-0400	169	185	115	15	350	80	15	12	12	333	40	43	50	400	17.5	1351.5	25	

ARJ 0500~0650



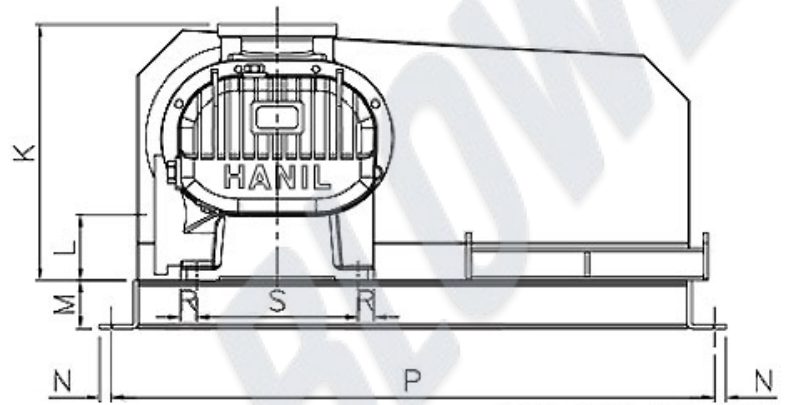
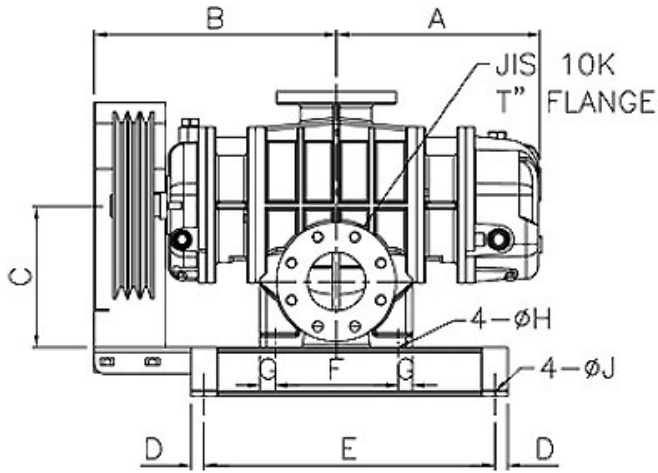
Wt.(Kgs):Main Body Weight
Unit:mm

MODEL	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	Wt(Kgs)
ARJ0500	238	273	168	20	370	125	15	15	15	356	90	75	18	734	15	200	2	76
ARJ0650	281	315	173	20	370	210	15	15	15	360	95	75	18	734	15	200	2.5	94

15 Dimensions and Weights

Dimensions and Weights

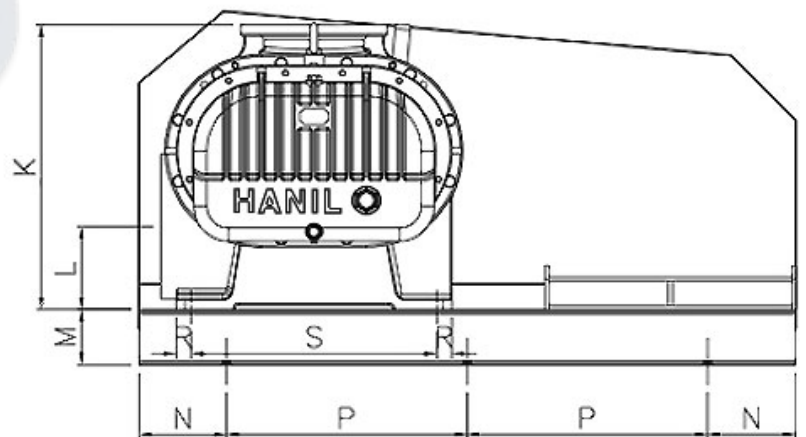
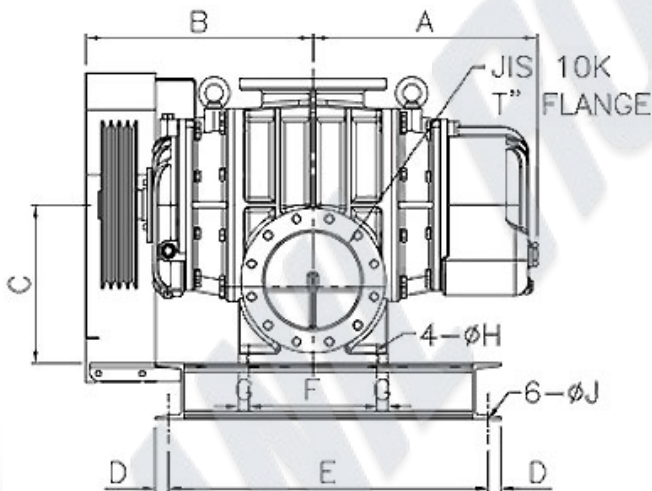
ARJ 0802~1501



Wt.(Kgs):Main Body Weight
Unit:mm

MODEL	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	Wt(Kgs)
ARJ0802	318	375	220	20	450	190	23	19	15	395	102	75	18	934	25	250	3	167
ARJ1002	368	425	220	20	450	290	20	19	15	395	115	75	18	934	25	250	4	193
ARJ1250	406	445	265	25	605	230	26	19	19	475	145	100	20	1190	25	350	5	319
ARJ1251	446	490	305	25	605	320	21	19	19	520	155	100	20	1190	25	350	5	353
ARJ1501	501	543	305	25	605	425	24	19	19	520	155	100	20	1190	25	350	6	418

ARJ 2001~3001

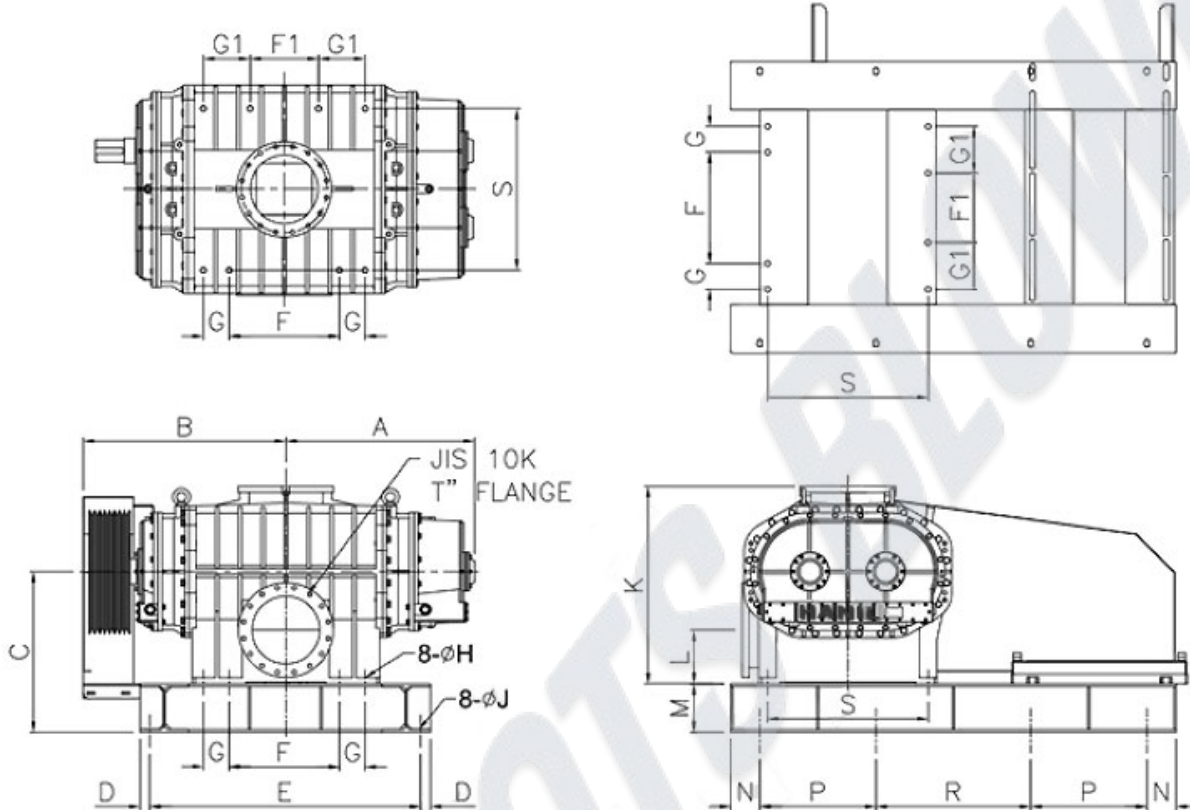


Wt.(Kgs):Main Body Weight
Unit:mm

MODEL	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	Wt(Kgs)
ARJ2001	515	495	363	30	730	270	35	23	19	650	190	125	200	550	40	550	8	720
ARJ2002	605	595	363	30	730	460	35	23	19	665	190	125	200	550	40	550	8	897
ARJ2501	605	595	388	30	730	460	35	23	19	675	225	125	200	550	40	550	10	913
ARJ2502	778	678	500	40	850	650	65	27	24	875	250	200	200	800	55	620	10	1665
ARJ3001	900	805	500	40	1120	650	65	27	24	875	250	200	200	800	55	620	12	2010

Dimensions and Weights

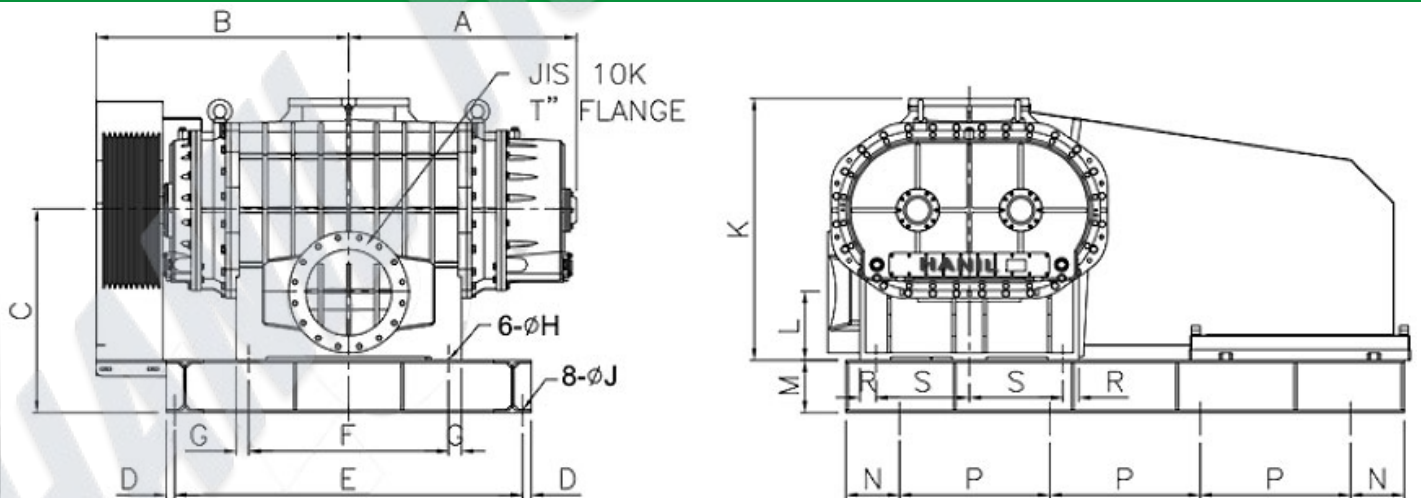
ARJ 3501



Wt.(Kgs):Main Body Weight
Units:mm

MODEL	A	B	C	D	E	F	F1	G	G1	H	J	K	L	M	N	P	R	S	T	Wt(Kgs)
ARJ3501	975	1048	580	50	1400	570	354	133	241	28	24	1020	278	250	150	600	800	830	14	4100

ARJ 4001



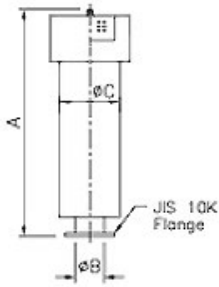
Wt.(Kgs):Main Body Weight
Units:mm

MODEL	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	Wt(Kgs)
ARJ4001	1043	1147	945	40	1400	930	60	35	24	1215	315	250	300	600	800	435	16	4650

17 Accessories

Accessories

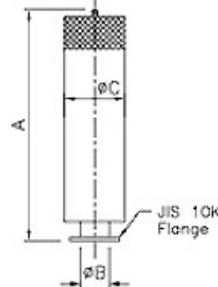
SUCTION SILENCER(OUTDOOR)



UNITS : mm

MODEL	A	B	C	COMPLIANCE
GLN0500	682	50	165	ARJ0500
GLN0650	682	65	165	ARJ0650
GLN0802	782	80	216	ARJ0802
GLN1002	782	100	216	ARJ1002
GLN1251	1303	125	349	ARJ1251
GLN1501	1303	150	349	ARJ1501
GLN2001	2018	200	525	ARJ2001
GLN2501	2023	250	600	ARJ2501
GLN3001	2226	300	700	ARJ3001
GLN3501	2536	350	797	ARJ3501
GLN4001	2538	400	797	ARJ4001

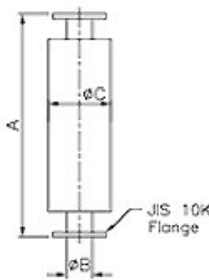
SUCTION SILENCER(INDOOR)



UNITS : mm

MODEL	A	B	C	COMPLIANCE
GLN0500	680	50	165	ARJ0500
GLN0650	680	65	165	ARJ0650
GLN0802	784	80	216	ARJ0802
GLN1002	834	100	216	ARJ1002
GLN1251	1300	125	349	ARJ1251
GLN1501	1300	150	349	ARJ1501
GLN2001	2030	200	525	ARJ2001
GLN2501	2030	250	600	ARJ2501
GLN3001	2230	300	700	ARJ3001
GLN3501	2570	350	800	ARJ3501
GLN4001	2570	400	800	ARJ4001

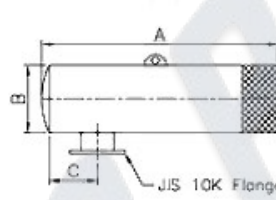
DISCHARGE SILENCER



UNITS : mm

MODEL	A	B	C	COMPLIANCE
GLI0500	657	50	165	ARJ0500
GLI0650	657	65	165	ARJ0650
GLI0802	757	80	216	ARJ0802
GLI1002	760	100	216	ARJ1002
GLI1251	1188	125	349	ARJ1251
GLI1501	1188	150	349	ARJ1501
GLI2001	1726	200	525	ARJ2001
GLI2501	1730	250	600	ARJ2501
GLI3001	1750	300	703	ARJ3001
GLI3501	2224	350	797	ARJ3501
GLI4001	2228	400	797	ARJ4001

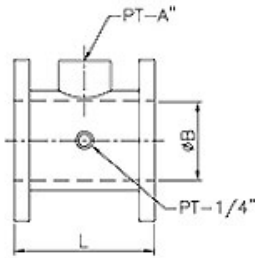
HORIZONTAL SILENCER



UNITS : mm

MODEL	A	B	C	COMPLIANCE
GLL0500	586	165	120	ARJ0500
GLL0650	586	165	120	ARJ0650
GLL0802	721	216	150	ARJ0802
GLL1002	721	216	150	ARJ1002
GLL1251	1228	351	250	ARJ1251
GLL1501	1228	351	250	ARJ1501
GLL2001	1866	528	400	ARJ2001
GLL2501	1866	602	400	ARJ2501
GLL3001	2076	706	400	ARJ3001
GLL3501	2373	800	400	ARJ3501
GLL4001	2371	800	400	ARJ4001

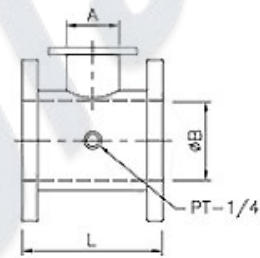
"T" JOINT



UNITS : mm

MODEL	A	B	L	COMPLIANCE
T-050	1.5"	50	150	ARJ0500
T-065	1.5"	65	150	ARJ0650
T-080	1.5"	80	165	ARJ0802
T-100	1.5"	100	165	ARJ1002
T-125	2"	125	205	ARJ1251
T-150	2"	150	210	ARJ1501
T-200	2"	200	265	ARJ2001

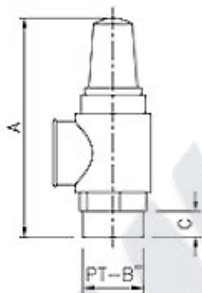
"T" JOINT



UNITS : mm

MODEL	A	B	L	COMPLIANCE
T-250	80	250	295	ARJ2501
T-300	80	300	350	ARJ3001
T-350	125	350	400	ARJ3501
T-400	125	400	500	ARJ4001

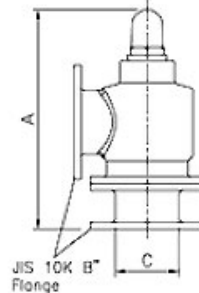
RELIEF VALVE



UNITS : mm

MODEL	A	B	C	COMPLIANCE
GSSL-25	176	1"	19	ARJ0500-0650
GSSL-40	232	1.5"	26	ARJ1002-1251
GSSL-50	276	2"	35	ARJ1501-2001

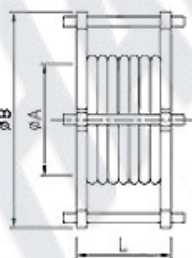
RELIEF VALVE



UNITS : mm

MODEL	A	B	C	COMPLIANCE
GSSL-80	500	3"	80	ARJ2501-3001
GSSL-100	670	4"	100	ARJ3501-4001

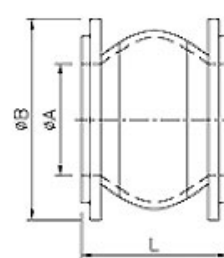
FLEXIBLE JOINT



UNITS : mm

MODEL	A	B	L	COMPLIANCE
JF-050	50	155	150	ARJ0500
JF-065	65	175	150	ARJ0650
JF-080	80	185	150	ARJ0802
JF-100	100	210	150	ARJ1002
JF-125	125	250	150	ARJ1251
JF-150	150	280	150	ARJ1501
JF-200	200	330	200	ARJ2001
JF-250	250	400	200	ARJ2501
JF-300	300	445	200	ARJ3001
JF-350	350	490	230	ARJ3501
JF-400	400	560	230	ARJ4001

FLEXIBLE JOINT

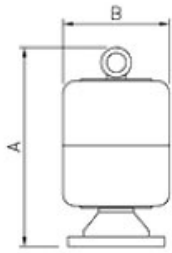


UNITS : mm

MODEL	A	B	L	COMPLIANCE
F-050	50	155	105	ARJ0500
F-065	65	175	115	ARJ0650
F-080	80	185	130	ARJ0802
F-100	100	210	135	ARJ1002
F-125	125	250	170	ARJ1251
F-150	150	280	180	ARJ1501
F-200	200	330	205	ARJ2001
F-250	250	400	240	ARJ2501
F-300	300	445	260	ARJ3001
F-350	350	490	265	ARJ3501
F-400	400	560	265	ARJ4001

Accessories

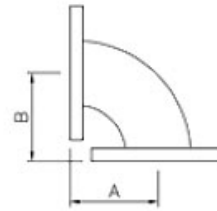
SUCTION SILENCER(SHORT)



UNITS : mm

MODEL	A	B	COMPLIANCE
GLN0500	338	177	ARJ0500
GLN0650	338	177	ARJ0650

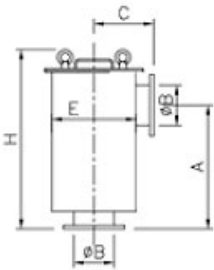
90° ELBOW



UNITS : mm

MODEL	A	B	COMPLIANCE
HE-050	84	159	ARJ0500
HE-065	105	105	ARJ0650
HE-080	122	122	ARJ0802
HE-100	160	160	ARJ1002
HE-125	199	199	ARJ1251
HE-150	237	237	ARJ1501
HE-200	313	313	ARJ2001
HE-250	389	389	ARJ2501
HE-300	465	465	ARJ3001
HE-350	541	541	ARJ3501
HE-400	618	618	ARJ4001

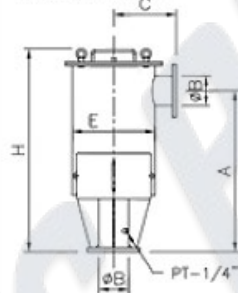
FILTER TANK



UNITS : mm

MODEL	A	B	C	E	H
B-050	393	50	184	216	557
B-065	395	65	186	216	559
B-080	480	80	225	263	679
B-100	480	100	210	263	679

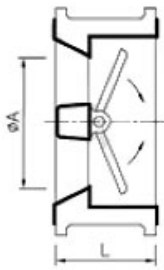
FILTER TANK



UNITS : mm

MODEL	A	B	C	E	H
B-125	758	125	296	392	958
B-150	760	150	298	392	960
B-200	920	200	370	492	1150
B-250	1092	250	345	492	1400
B-300	1200	300	420	612	1593
B-350	1298	350	515	777	1686
B-400	1298	400	515	777	1686

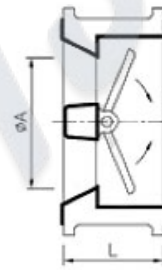
DUAL CHECK VALVE



UNITS : mm

MODEL	A	L	COMPLIANCE
DC-050	50	54	ARJ0500
DC-065	65	54	ARJ0650
DC-080	80	57	ARJ0802
DC-100	100	64	ARJ1002
DC-125	125	70	ARJ1251
DC-150	150	76	ARJ1501
DC-200	200	95	ARJ2001
DC-250	250	108	ARJ2501

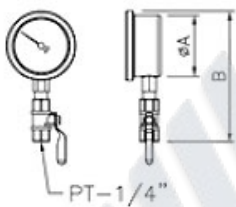
DUAL CHECK VALVE



UNITS : mm

MODEL	A	L	COMPLIANCE
DC-300	300	143	ARJ3001
DC-350	350	184	ARJ3501
DC-400	400	191	ARJ4001

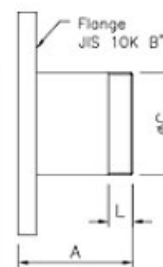
LIQUID FILLED PRESSURE GAUGE



UNITS : mm

MODEL	A	B	COMPLIANCE
AC-A	63	129	ARJ0500-4001
PRESSURE RANGE	76-0cmHg . 0-1kg/cm ²		

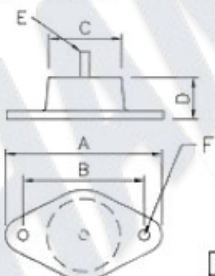
TUBE CONNECTOR



UNITS : mm

MODEL	A	B	C	L	COMPLIANCE
V-050	95	2"	50	40	ARJ0500
V-065	95	2.5"	65	40	ARJ0650
V-080	95	3"	80	40	ARJ0802
V-100	95	4"	100	40	ARJ1002
V-125	155	5"	125	50	ARJ1251
V-150	155	6"	150	50	ARJ1501
V-200	155	8"	200	60	ARJ2001
V-250	155	10"	250	60	ARJ2501
V-300	155	12"	300	60	ARJ3001
V-350	160	14"	350	70	ARJ3501
V-400	160	16"	400	70	ARJ4001

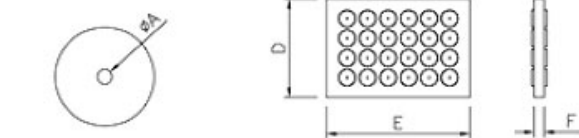
ABSORBER



UNITS : mm

MODEL	A	B	C	D	E	F
UJ-200J	140	110	64	55	3/8"	ø14 0-150
UJ-500J	214	166	100	57	1/2"	ø14 140-450
UJ-800J	268	220	130	82	1/2"	ø17 400-750

ABSORBER



UNITS : mm

MODEL	A	B	C	D	E	F
ARJ0400	15	25	50			
ARJ0500-0650	15	25	75			
ARJ0800-1002	25	39	102			
ARJ1251-4001				100	150	10



N2 GAS BLOWER PRESSURE 5 BAR



N2 GAS BLOWER PRESSURE 7 BAR



H2 GAS BLOWER PRESSURE 0.7 BAR



AIR BLOWER PRESSURE 0.8 BAR

Sales Items

1. Roots Type Rotary Blower
2. Roots Type Gas Blower (H₂, N₂, CH₄, LPG, LNG)
3. Mechanical Booster system

H₂ Blower 10,000m³/hr



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