



# POSITIVE DISPLACEMENT THREE LOBE ROTARY BLOWER





# Advantages

Low pressure pulsation
Less noise & vibration
High volumetric efficiency
Low discharge temperature
Low power consumption
100% oil free air/gas
Low maintenance and low spares inventory

Application

Cement Industry Sugar Industry Fertilizer Plants Chemical Plants Iron & Steel Plant

Textile & Paper Mill

Water Effluent treatment Plants

The AMCL- Three Lobe Positive Displacement Blower (Root type) have been developed under Technical Collaboration with world leader UNOZAWA Gumi Iron Works Ltd. Japan, incorporating AMCL's extensive experience and technical expertise. These ARJ Series high performance Blowers employ three lobe rotor design which reduces noise and vibration level. This World Class mechanical marvel is indigenously manufactured at AMCL's state-of-the-art plant at Butibori near Nagpur. These Blowers are working in different industries in India and abroad to utmost satisfaction of our customers due to excellent product performance and our after sales parts and service support.

Yesterday's Pioneer.... Today's Leader

AMCL MACHINERY LIMITED

(HNGIL Group of Companies)

Model	Speed (rpm)	9.8 1000	kpa mmAq	19.6 kpa 2000 mmAq		CAPACIT 29.94 kpa 3000 mmAq		Y Qs (M3/Min ) & 39.4 kpa 4000 mmAq		SHAFT POWER 49 kpa 5000 mmAq		R L(KW) AT EACH		H DISCHARGE P 68.6 kpa 7000 mmAq		RESSURE 78.4 kpa 8000 mmAq		88.2 kpa 9000 mmAq		98 kpa 10000 mmAq	
ARJ 0651	1650 1750 1850	Qs 3.57 3.83 4.09 4.35	1 1.1 1.2	3.28 3.54 3.8	1.7 1.9 2	3.06 3.32 3.58	2.4 2.6 2.8	2.88 3.14 3.4	3.1 3.3 3.6	2.72 2.98 3.24	3.8 4.1 4.4	Qs 2.4 2.66 2.92	4.5 4.8 5.1	Qs 2.25 2.51 2.77	5.2 5.6 5.9	Qs 2.12 2.38 2.64	5.9 6.3 6.7	Qs	į.	Qs	L.
	1950 2050 2160 2240 2380	4.35 4.61 4.9 5.11 5.47	1.3 1.4 1.5 1.6 1.8	4.06 4.32 4.61 4.82 5.18	2.1 2.3 2.5 2.6 2.8	3.84 4.1 4.39 4.6 4.96	3 3.2 3.4 3.5 3.8	3.66 3.92 4.21 4.41 4.78	3.8 4 4.3 4.5 4.9	3.5 3.76 4.05 4.25 4.62	4.6 4.9 5.2 5.5 5.9	3.18 3.44 3.73 3.94 4.3	5.1 5.5 5.8 6.1 6.4 6.9	3.03 3.29 3.58 3.79	6.3 6.7 7.1 7.4	2.9	7.1				
ARJ 0802	1310 1390 1470 1550	5.28 5.66 6.05	1.5 1.7 1.8 2	4.88 5.26 5.65 6.08	2.6 2.8 3 3.2	4.58 4.96 5.34	3.6 3.9 4.1	4.32 4.71 5.09 5.52	4.6 4.9 5.3	4.1 4.48 4.87	5.6 6 6.4	3.7 4 4.4 4.9	6.7 7.1 7.6 8.1	3.46 3.84 4.23 4.66	7.7 8.2 8.8 9.4	3.27 3.66 4.04 4.47	8.7 9.3 9.9 10.6	3.1 3.4 3.86 4.3	9.8 10.4 11.1 11.8	2.93 3.32 3.7 4.13	10.8 11.5 12.2 13
	1650 1750 1850 1950	6.48 6.91 7.39 7.87 8.35	2.2 2.4 2.7 3	6.51 6.99 7.47 7.95	3.5 3.8 4.1 4.5	5.78 6.21 6.69 7.17 7.65	4.5 4.8 5.2 5.6 6	5.95 6.43 6.91 7.39	5.7 6.1 6.6 7 7.5	5.3 5.73 6.21 6.69 7.17	6.9 7.4 7.9 8.5 9.1	5.3 5.8 6.3 6.7	8.7 9.3 9.9 10.6	5.09 5.57 6.05 6.53 7.01	10 10.7 11.4 12.1 12.9	4.9 5.38 5.86 6.34	11.3 12.1 12.8 13.7	4.73 5.21 5.69 6.17	12.6 13.4 14.3 15.2	4.13 4.56 5.04 5.52 6	13.9 14.8 15.7 16.7
ARJ 1002  ARJ 1251  ARJ 1501	2050 2150 1310 1390 1470	8.83 9.36 8.06 8.64 9.21	3.2 3.5 2.3 2.5 2.8	8.43 8.96 7.52 8.1 8.67	4.8 5.2 3.8 4.2 4.5	8.13 8.66 7.11 7.68 8.26	6.4 6.9 5.4 5.8 6.2	7.87 8.4 6.76 7.34 7.92	8 8.6 6.9 7.4 7.9	7.65 8.18 6.46 7.04 7.61	9.7 10.3 8.5 9.1 9.7	7.2 7.7 5.9 6.4	11.3 12 10 10.7 11.4	7.54 5.59 6.17	12.9 13.7 11.5 12.3 13.1	6.82 7.35 5.34 5.92 6.49	14.5 15.4 13.1 14 14.9	6.65 7.18 5.1 5.68 6.25	16.1 17.1 14.6 15.6 16.6	6.48 7.01 4.88 5.45 6.03	17.7 18.8 16.2 17.2 18.3
	1560 1650 1750 1850	9.86 10.5 11.2 11.9	3 3.3 3.7 4	9.32 10 10.7 11.4	4.9 5.3 5.7 6.2	8.91 9.56 10.3	6.7 7.2 7.8 8.4	8.56 9.21 9.93 10.7	8.5 9.1 9.8 10.6	8.26 8.91 9.63 10.4	10.4 11.1 11.9 12.7	7.7 8.3 9 9.8	12.2 13 14 14.9	6.75 7.39 8.04 8.76 9.48	14 15 16 17.1	7.14 7.79 8.51 9.23	15.9 16.9 18.1 19.3	6.9 7.55	17.7 18.8	6.68	20
	1950 2050 2160 1100 1170	12.7 13.4 14.2 11.2	4.4 4.8 5.3 3.1 3.4	12.1 12.8 13.6 10.5 11.3	6.7 7.3 7.9 5.3 5.7	11.7 12.4 13 9.9 10.8	9 9.7 10.4 7.5 8.1	11.4 12.1 12.9 9.5 10.4	11.3 12.1 12.9 9.7 10.4	11.1 11.8 12.6 9.1	13.6 14.5 15.5 11.9 12.7	10.5 11.2 12 8.3 9.2	15.9 16.9 18 14.1 15.1	10.2 10.9 11.7 8 8.9	18.2 19.3 21 16.3 17.4	7.7 8.6	18.5 20	7.4 8.3	21 22	7.2 8	23 24
	1240 1310 1390 1470	12.9 13.7 14.7 15.7	3.7 4 4.4 4.8	12.2 13 14 15	6.2 6.6 7.2 7.8	11.6 12.5 13.5 14.4	8.7 9.3 10 10.7	11.2 12.1 13 14	11.1 11.9 12.8 13.7	10.8 11.7 12.7 13.7	1.6 14.5 15.5 16.6	10.1 10.9 11.9 12.9	16.1 17.1 18.3 19.5	9.7 10.6 11.6 12.5	18.6 20 21 22 24	9.4 10.3 11.3 12.2	21 22 24 25	9.2 10 11 12	24 25 27 28	8.9 9.8 10.7 11.7	26 28 29 31
	1560 1650 1750 1100	16.8 17.9 19.1 16.6	5.3 5.9 6.5 4.2	16.1 17.2 18.4 15.7 16.9	8.5 9 10 7.4 8	15.5 16.6 17.9 15 16.2	11.6 12.5 13.5 10.6	15.1 16.2 17.4 14.4 15.6	14.7 15.8 17 13.8 14.8	14.8 15.9 17.1 13.9	17.8 19.1 20 17 18.2	14 15.1 16.3 12.8 14.1	21 22 24 20	13.6 14.7 16 12.4 13.7	26 27 23	13.3 14.4 15.7 12 13.3	27 29 31 27 28	13.1 14.2 15.4 11.6 12.9	30 32 34 30	12.5 13.9 15.1 12.8	33 36 38 33
	1170 1240 1310 1390 1470	17.9 19.1 20.4 21.8 23.2	4.6 5 5.4 5.9 6.4	18.2 19.4 20.8 22.3	8.6 9.2 9.9 10.7	17.5 18.7 20.1 21.6	11.4 12.2 13 14 15	16.9 18.1 19.6 21	15.8 16.8 18 19.3	15.1 16.4 17.6 19.1 20.5	19 21 22 24	15.3 16.6 18 19.4	22 23 24 26 28	14.9 16.2 17.6 19	25 27 28 30 32	14.5 15.8 17.2 18.6	30 32 34 36	14.1 15.4 16.8	32 34 36 38	12.5 13.8 15	35 38 40
	1560 1650 1750 830 930	24.8 26.4 28.2 29.2 31.1	7 7.6 8.4 6.8 7.3	23.9 25.5 27.3 27.8 29.7	11.6 12.5 13.5 12.3 13.1	23.2 24.8 26.6 26.8 28.7	16.1 17.03 18.6 17.7 18.9	22.6 24.2 26 26 27.9	21 22 24 23 24	22.1 23.7 25.5 25.3 27.2	25 27 29 29 30	21.1 22.7 24.4 23.8 25.7	30 32 34 34 36	20.6 22.2 24 23.2 25.1	34 37 39 40 42	20.2 22.6 24.5	39 45 48	22.1 24	51 54	21.6 23.5	56 59
	980 1040 1100 1170	33 35.2 37.5 40.2	7.9 8.5 9.2 10.1	31.6 33.9 36.2 38.8	14 15 16.1 17.4 18.7	30.6 32.9 35.2 37.8	20 21 23 25	29.8 32.1 34.4 37	26 28 30 32	29.1 31.4 33.7 36.3	32 34 37 39	27.6 29.9 32.2 34.8	38 41 43 46	27 29.3 31.5 34.2	44 47 50 54	26.4 28.7 31 33.6	50 54 57 61	25.9 28.2 30.5 33.1	57 60 64 68	25.4 27.7 30 32.6	63 67 71 76
	1240 1310 1390 830	42.9 45.5 48.6	11 11.9 13.1 10.6 11.4	41.5 44.1 47.2 44.2 47.1	20 22 19.1	40.5 43.1 46.2 42.8 45.8	26 28 30 28	39.7 42.3 45.4 41.7 44.6	34 36 39 36	39 41.6 44.7 40.7	42 44 48 45 47 50	38.4 41 44.1 38.6 41.6	50 53 56 53	36.9 39.5 42.6 37.8 40.7	57 61 65 62 65	36.3 39 42 37	65 69 74 70 74	35.8 38.4 41.5 36.3 39.2	73 77 82 79	35.3 38 41 35.6	80 85 91 87
ARJ 2501	930 980 1040 1100 1170	46.1 49 52 55.5 59.1 63.2	12.3 13.3 14.4 15.7	50.1 53.6 57.2 61.3	20 22 23 25 27	48.7 52.3 55.8 59.9 64.1	29 31 33 36 38 41	47.6 51.1 54.7 58.8	38 41 43 46 50	43.7 46.6 50.2 53.2 57.9	53 57	45.5 48.1 52.9 57	53 56 60 64 68 72	40.7 47.2 50.8 54.9	69 74 78 84 89	39.9 42.9 46.5 50 54.1	79 84 89 95 101	42.2 45.7 49.3 53.4	83 88 94 99 106	38.5 41.5 45 48.6 52.7	92 97 104 110 117
ARJ 2504	1240 1310 1390 740	67.4 71.5 76.2 71.3 75.6	17.1 18.6 20 17	65.5 69.6 74.3 68.9 73.1	27 29 31 34 30 32	64.1 68.2 73 67.1 71.3	41 44 47 43 46	63 67.1 71.8 65.6 69.9	53 57 61 56 60	62 66.1 70.9 64.3 68.6	61 65 69 74 69 73	61.1 65.3 70 63.2 67.5	77 82 87 82 82 87	59.1 63.2 67.9 60.5 64.8	89 95 101 95 100	58.3 62.4 67.1 59.5 63.8	101 107 114 108 114	57.6 58.6 62.81 68.2	113 121 128 136	57.7 62	134 141
	780 830 880 930 980	81 86.3 91.6 97	20 22 24 26	78.5 83.8 89.2 94.5	35 38 40 43	76.7 82 87.4 92.7	49 53 57 60	75.2 80.6 85.9 91.3	64 68 73 78	74 79.3 84.6 90	78 84 89 95	72.8 78.2 83.5 88.9	93 99 105 112	70.1 75.5 80.8 86.2	107 114 122 129	69.1 74.5 79.8 85.2	122 130 138 146	73.5 78.9 84.2	136 145 154 163	67.3 72.6 78 83.3	151 161 170 180
ARJ 3001	740 780 830 880	89.3 94.6 101 108	22 23 25 28	86.4 91.7 98.4 105	38 40 43 47	84.3 89.6 96.3 103	54 57 61 66	82.6 87.9 94.5 101	70 74 79 85	81.1 86.4 93.1 100	86 91 98 104	79.8 85.1 91.7 98.4	102 108 116 123	76.6 81.9 88.6 95.2	118 125 134 142	75.4 80.7 87.4 94	134 142 152 162	74.3 79.6 86.3 92.9	150 159 170 181	73.3 78.6 85.2 91.9	166 176 188 200
ARJ 3002	930 980 740 780 830	115 121 112 119 127	30 33 27 29 32	112 118 108 115 123	50 54 47 50 54 58	110 116 106 113 121	70 75 67 71 77	108 114 104 110 119	91 96 87 93 99	106 113 102 109 117	111 118 107 114 122	105 112 100 107 115	131 139 127 135 144	102 109 97 103 112	151 160 148 156 167	101 107 95 102 110	172 182 168 177 190	99.6 106 94.5 101 109	192 203 188 198 212	98.5 105 92.5 99.1 107	212 224 208 220 235
	880 930 980 740	135 144 152 138	35 38 41 33	132 140 148 134	63 67 58	129 137 146 131	82 88 94 82	127 135 144 129	106 113 121 107	125 134 142 127	130 139 147 132	124 132 140 125	154 164 174 157 166	120 128 136 120	178 189 200 181 192	118 127 135 119	202 214 227 206	118 126	226 240		
ARJ 3501	780 830 880 930 980	146 157 167 177 187	36 39 43 46 50	142 153 163 173 183	62 67 72 77 83	139 150 160 170 180	88 94 101 108 115	137 147 157 168 178	114 122 131 139 148	135 145 155 166 176	140 150 160 170 181	133 143 153 164 174	166 177 189 201 214	129 139 149	192 205 219	127	218 233				

#### Legends



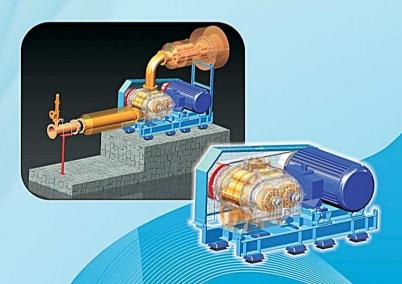
Standard Clearance Range

High Pressure Clearance range and cooling water required for gear and drive side.

Back flow cooling & High pressure clearance range. (Cooling water required for gear and drive side)

#### Notes:

- 1. Qs-Free Air Delivery (FAD) in m3/min
- 2. Air volume listed in the Rotary Blower performance tables represent the standard suction state (Temperature 35°C, Absolute pressure 10332mmWG 101.3Kpa, Relative Humidity 65%). The suction pressure for the rotary blower and vacuum pressure for the rotary vacuum pump.
- 3. Between two adjacent blower models, air volumes at boundary level overlap. Either of the two models can be used, but from an economical standpoint it is recommended that the smaller model be used. Occasionally, however, the larger model is used at low speed in consideration of noise levels.
- 4. shaft horse power listed in the performance tables is the requirement for transmission (v-belt). A motor with an output corresponding to the listed shaft horse power can be used. However, it will be better to use a motor whose output is 10~20% larger than the shaft horse power. The use of an excessively larger motor would result in unnecessary energy waste, due to increase in no-load current causing motor efficiency to drop.
- 5. For your requirement of blower other than capacities mentioned above, please write to us.
- 6. In view of continuous product development the specifications are subject to change without prior notice.





# AMCL - A Profit Optimizer and Solution Provider





# Blower Features AMCL Three Lobe Positive Displacement Blowers

Works at Nagpur

### Features

Three lobe rotor design

Heat- treated castings of graded cast irons

Dynamically balanced rotors

Alloy steel hardened, ground and crowned timing gears. High quality, amply designed anti- friction bearings Intermediate chamber side covers and labyrinth shaft seal Optimum internal clearances

Bottom Horizontal discharge design with lube oil cooling facility. Engineered, high quality

accessories

### Benefits

Leads to lower range of pressure pulsations at discharge. Results in smoother air discharge Low levels of noise < 90-100 dbA, vibration less than 80 Microns

Lower shock loading of bearings and timing gears

Improves grain structure and ensures dimensional stability; result in higher reliability and lower maintenance

Lower to noise, vibration levels and reduced bearings loads,

Results in smoother operation, low maintenance, higher reliability.

Leads to lower gear running noise, low wear & longer life of gears.

Long life of bearings- virtually maintenance free and smooth operation.

Prevent oil leakage into main chamber and ensure 100% oil free air.

Reduce air slippage giving high volumetric and energy efficiency and lower air discharge temperature (generally less than 100 Deg C.)

Compact installation, maintains low lube oil temperature which minimizes wear of gears and bearings.

Reliable, trouble free operation with guaranteed performance.

Catalogue No. BLW-01-06-07-2011 Rev- Issue-0

In view of continuos, product development, the information given here is likely to change without prior notice.

## AMCL MACHINERY LIMITED

(HNGIL Group of Companies)

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