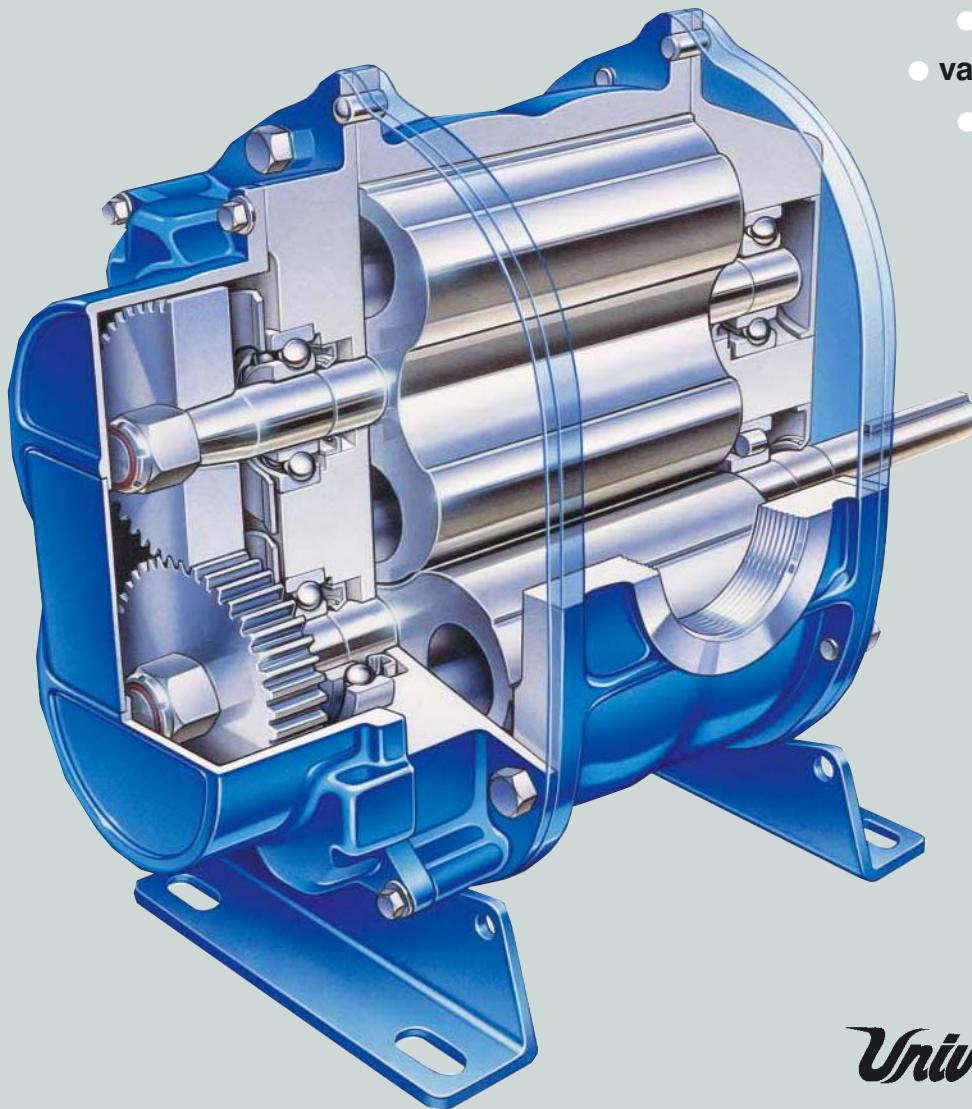


Universal RAI Rotary Positive Blowers

- pressures to 1 bar
- vacuums to 540 mbar
- flows to 4000 m³/h



Universal **RAI**

R  **O**  **T** **S**

I M P E L L I N G Q U A L I T Y

Versatile, reliable Universal RAI blower fits your application

Remarkably adaptable

You can mount the Universal RAI® blower right-side up or up-side down, with vertical or horizontal flow and with the drive shaft rotating in either direction. Choosing from 17 frame sizes, you can select the ideal blower to fit your application with little or no modification.

Greater performance

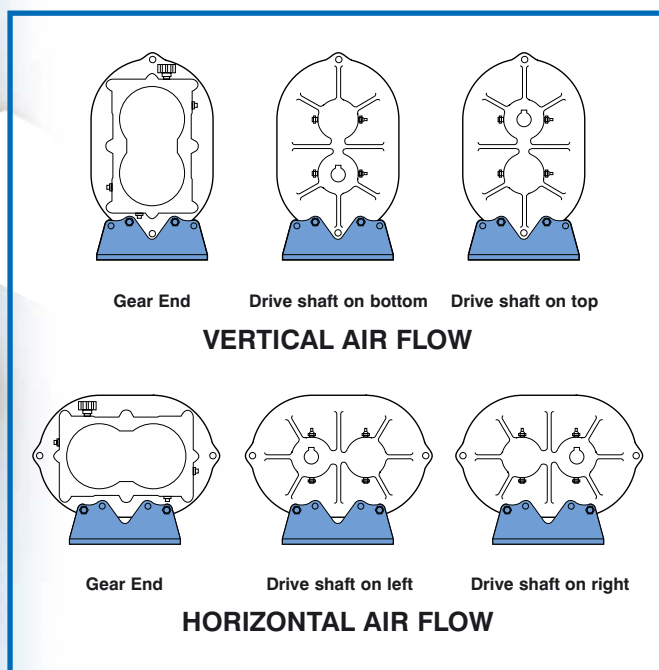
The Universal RAI line has a broad range of applications. With pressures to 1 bar, vacuums to 540 mbar and flows to 4000 m³/h, you get a blower that not only fits, but also gives you the best performance in its class.

Low cost

The Universal RAI® blower line is designed with the latest engineering technology and built using the most modern manufacturing processes. These factors allow cost savings we can pass on to you, the customer.

Built-in reliability

Each Universal RAI blower is precision machined on the latest CNC equipment. This assures close tolerances between the impellers, casing and headplates to minimise “back-slippage” of air and improve both efficiency and reliability. The exclusive “Figure 8” gearbox design improves oil distribution and lengthens bearing and gear life. Oversized anti-friction bearings support the shafts. On the drive end, cylindrical roller bearings carry Vee-belt loading and extend service life.



Fast delivery

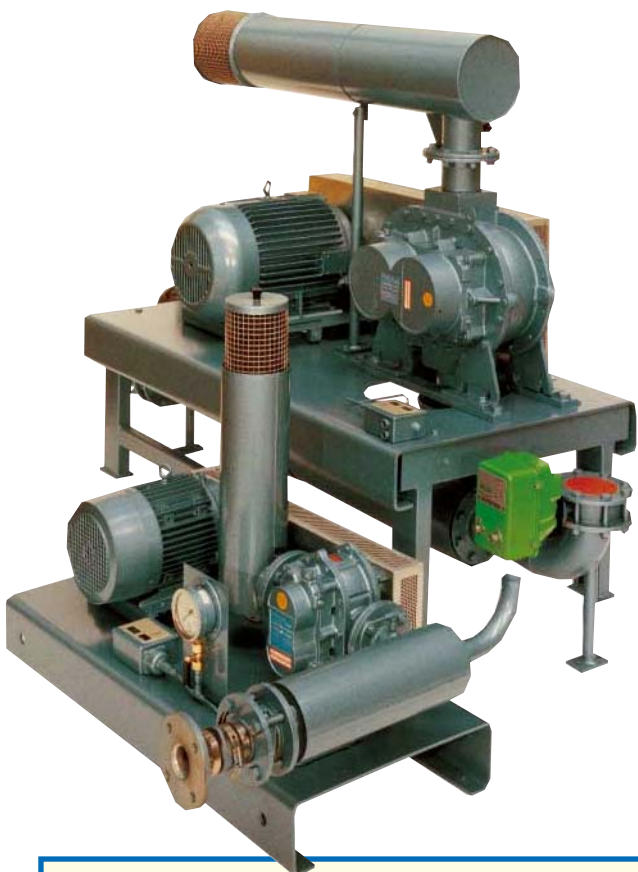
Thanks to our worldwide stocking centres, you'll get on-time delivery. You can schedule production, reduce your inventory, anticipate your costs - and meet your deadlines.

Better service

With our worldwide network of sales and distribution centres, we can offer the kind of responsive service and applications assistance that the customer both deserves and needs.

Iron-clad warranty

DMD Roots is the leader in warranties as well – we were the first to introduce an uncontested warranty that guarantees repair or replacement of any unit that malfunctions for any reason. We will protect you or your customer for a full 18 months from start-up or 24 months from shipment, whichever occurs first.



EXCLUSIVE GEARBOX DESIGN

"Figure 8" gearbox improves oil distribution for longer gear and bearing life with smoother operation.

TAPER MOUNTED TIMING GEARS

Carburised and ground alloy steel gears are precision machined and taper fitted to alloy shafts, eliminating the need for unreliable timing pins and allowing for easy removal.

ADVANCED IMPELLER DESIGN

Dynamically balanced impellers are centre timed to allow either clockwise or anti-clockwise rotation.

LONG-LIFE ANTI-FRICTION BEARINGS

Oversized cylindrical roller bearings at the drive shaft handle Vee-belt loading; all bearings are engineered for long service life.

VERSATILE MOUNTING

You can mount the Universal RAI® in multiple positions to accommodate your specific needs. With your choice of 17 frame sizes, there is a Universal RAI that can fit into your original equipment or replacement application.

RUGGED STEEL MOUNTING FEET

You can change the Universal RAI from horizontal flow to vertical flow using the same mounting feet. Units are even interchangeable with the mounting holes of many competitive blowers.

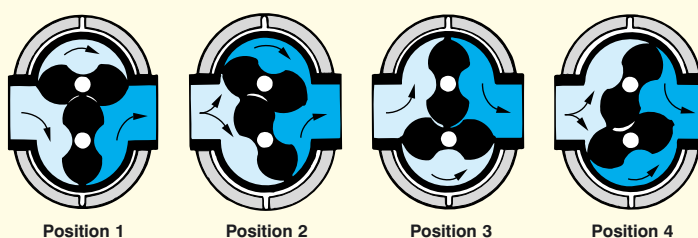
LUBRICATION

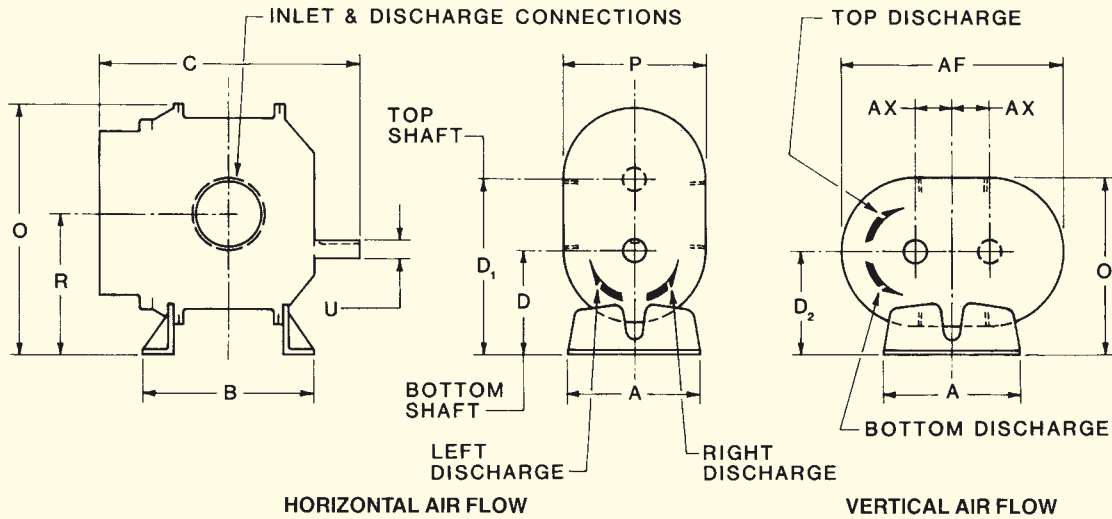
Dual Slash Lubricated Universal RAI DSL® blowers from size 32 to 615 feature splash oil lubrication at both drive and gear end. Other Universal RAI models feature splash oil lubrication at the gear end and grease lubrication at the drive end.

Two "Figure 8" impellers, mounted on parallel shafts, rotate in opposite directions. As each impeller passes the blower inlet, it traps a definite volume of air and carries it around the case to the blower outlet, where the air is discharged. With constant speed operation, the displaced volume is essentially the same regardless of discharge pressure, temperature or barometric pressure.

Timing gears control the relative position of the impellers to one another and maintain small but definite clearances. This allows operation without the need for lubrication inside the air casing.

Operating principle





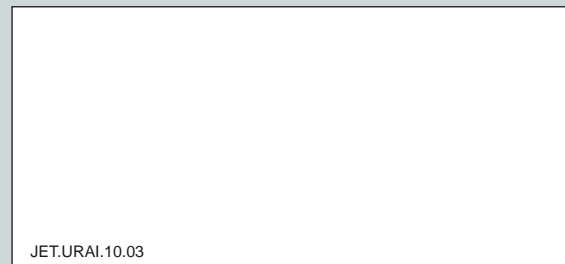
Frame	A	B	C	Drive Shaft Location			O	O'	P	R	U	Keyway	Inlet Discharge Connections	AF	AX	Approx Net Wt. (kg.)
				D Bottom Shaft	D1 Top Shaft	D2 Horiz. Shaft										
22M	130	127	248	95	159	95	245	175	159	127	16 j6	5 x 5	1 BSP/ISO	235	31.7	15
22M	130	178	248	95	159	95	245	175	159	127	16 j6	5 x 5	2 BSP/ISO	235	31.7	20
32M	184	171	286	127	216	127	325	225	197	171	19 j6	6 x 6	1.25 BSP/ISO	308	44.5	31
33M	184	194	308	127	216	127	325	225	197	171	19 j6	6 x 6	2 BSP/ISO	308	44.5	34
36M	184	254	372	127	216	127	325	225	197	171	19 j6	6 x 6	2.5 BSP/ISO	308	44.5	46
42M	203	184	330	159	260	159	383	270	222	210	24 j6	8 x 7	1.5 BSP/ISO	346	50.8	40
45M	203	254	394	159	260	159	383	270	222	210	24 j6	8 x 7	2.5 BSP/ISO	346	50.8	49
47M	203	298	448	159	260	159	383	267	216	210	24 j6	8 x 7	3 BSP/ISO	346	50.8	58
53M	267	213	391	159	286	171	442	302	260	222	28 j6	8 x 7	2.5 BSP/ISO	438	63.5	65
56M	267	280	457	159	286	171	442	311	280	222	28 j6	8 x 7	4 BSP/ISO	438	63.5	77
59M	267	355	538	159	286	171	442	311	280	222	28 j6	8 x 7	4 BSP/ISO	438	63.5	93
65M	280*	254	467	222	375	222	550	384	324	298	32 k6	10 x 8	3 BSP/ISO	502	76.2	111
68M	280*	330	543	222	375	222	550	384	324	298	32 k6	10 x 8	5 BSP/ISO	502	76.2	129
615M	280*	508	721	222	375	222	550	413	381	298	32 k6	10 x 8	150 NP 10	502	76.2	193
76M	356**	298	507	280	457	280	664	525	492	368	38 k6	10 x 8	4 BSP/ISO	590	88.9	181
711M	356**	425	640	280	457	280	664	495	432	368	38 k6	10 x 8	150 NP 10	590	88.9	240
718M	356**	603	818	280	457	280	664	495	432	368	38 k6	10 x 8	200 NP 10	590	88.9	295

* 432 in vertical air configuration. ** 533 in vertical air configuration.



BS EN ISO 9001 : 1994
APPROVAL CERT
No. 929559

Due to continuous development we reserve the right to amend our specification without notice.



JET.URAI.10.03

The original **ROOTS** blower™



Roots

DRESSER, Inc.

PO BOX B7, Off St Andrews Road, Huddersfield HD1 6RB England.
Tel: +44 (0) 1484 42 22 22 Fax: +44 (0) 1484 42 34 29
E-mail: dmd.roots@dresser.co.uk