

Vane Air Motors



SAMT

Specialised Air Motors and Transmission



TONSON®

About TONSON AUSTRALIA

TONSON AUSTRALIA is a Specialised Air Motors & Transmission Company; an innovative manufacturer and supplier Of Explosion proof Products to Industries including Mining, oil & Gas, Chemicals & Paints , food & Beverage, paper & Plastic, Pharmaceutical, Manufacturing & Power Transmission. Our products meet CE standards ISO9001 & ISO9002.

At TONSON Australia (SAMT) we continue to develop new products for better working efficiency at competitive prices. We Manufacture wide range of industrial equipment and hold several international patents.

"Efficient & Reliable Global Brand"

TONSON Australia (SAMT) products include a complete range of Air Motors, Air Mixers, Drum Air Mixers, Air Fans, Pressure Tank, Drum Handling equipment, Air Diaphragm Pump, and Spray Guns for use in all major industries. Patented products are registered in countries including USA, Taiwan and China; including 100% Explosion-proof radial piston air motor, 100% Explosion-proof air fan, Reversible Air Motor Control & Bung entry mixer. Unlike other conventional products, our products mainly utilise air instead of electricity as the source of power; thus, it eliminates the chance of electricity shock and fire which are the most crucial factors for industries involved in chemical, flammable or volatile contents. TONSON Air Motors, Air Mixers, and Air Fans are engineered to meet the highest standard featuring 100% Explosion-proof, low air consumption, light weight, high torque, reversible stepless speed control, easy maintenance, and various mounting method. It may also be applied in harsh working condition such as humid, high temperature and volatile. Engineering safety factor and material selection are taken into account seriously upon design and manufacturing to produce the most safe and reliable equipment.

"Innovation & Quality, that's the key to our success"

At TONSON Australia we continually strive to offer our customer complete drive solutions and therefore we have partnered with Global brands in Power Transmission and Gearbox drives, providing complete drive solutions; Specialising in Industrial Gearboxes, Explosion proof electric AC & DC Motors & All power Transmission components such as Fluid Couplings, Brakes & Clutches, Gear and Tyre Couplings, Chain and Belt power transmission drives. We also provide solutions to meet your customised requirements, Including full engineering & AUTOCAD service and assistance with design, selection and site installation.

We can also customise any product to suit your specific requirements and will investigate the possibilities of developing new products to satisfy your special specifications.



"Innovative Ideas, Exclusive Technologies since 1966"

This Brochure has been dedicated to our extensive range of Explosion Proof Piston Air Motors, We have the biggest range of air motors in Australia., we can also customise any air motor to suit your requirements. For all other products please refer to their dedicated brochure.

Contact Us

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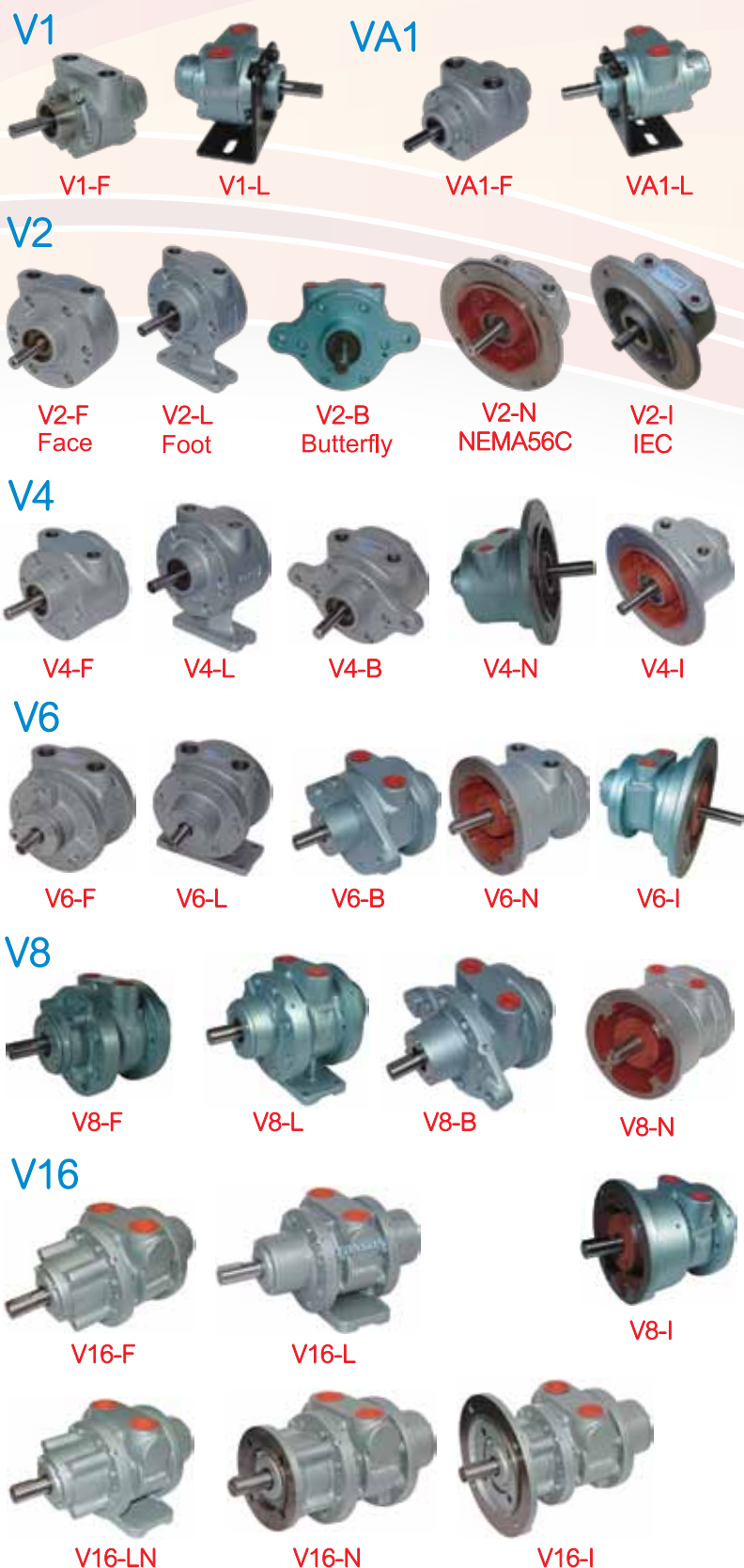
Features and applications

Vane Air Motor features include:

- 100% Explosion-proof
- Stalling Safety
- Step less Speed Control
- Never Burn Out
- Self-Sealing & Cool Running
- Smooth Start
- Mounting Flexibility (IEC, Nema, Face and Foot)
- All Plane Operation
- Toleration of Environment

Vane Air Motor applications are unlimited including:

- Hoist / Winches
- Pump Drives
- Automation Devices
- Hose Reels
- Conveyor Drives
- Choppers / Grinders
- Turntables
- Mixing Equipment
- Food / Pharmacy Packaging



MOUNT

Mass(kg)	V1	VA1	V2	V4	V6	V8	V16
F-Face	0.8	1	2.2	3.9	7.6	10.4	32.94
L-Foot	0.9	1.1	3.3	4.3	7.9	11	32.9
B-Butterfly	V2		3	4.1	7.8	10.5	(LN)36
NEMA56C	IEC#72D71C		3.8	5.1	8.4	12	32.9
IEC#72D71	4kg		4.3	5.3	8.8	13	36

SPECIFICATION

Ser ies	Gear Ratio	Performance at Maximum Speed						Max. Torque		
		Power		Torque		Speed	Air Com.		Spd.	
		HP	kW	N-m	lb-in	RPM	l/min	CFM	RPM	N-m
V1	1:1	0.5	0.3	0.31	2.75	10000	590	21	650	0.65
	3.5:1	0.4	0.3	0.82	7.26	2800			190	0.9
	15:1	0.4	0.3	4.07	36	666			30	8.15
	43:1	0.4	0.3	11.30	100	232			10	12
	150:1	0.2	0.1	19.40	172	66			5	21
VA1	1:1	0.50	0.4	0.60	5.31	6000	760	27	500	0.68
	3.5:1	0.45	0.3	1.80	15.9	1700			135	2
	15:1	0.46	0.3	8.13	72	400			30	8.9
	43:1	0.41	0.3	21.0	186	139			10	23
	150:1	0.20	0.2	36.0	319	40			3	40
V2	1:1	0.9	0.7	2.20	19.5	3000	900	32	350	3.05
	3:1	0.8	0.6	5.6	49.6	1000			100	7.6
	5:1	0.8	0.6	9	79.7	600			60	12
	10:1	0.74	0.6	17.6	156	300			30	24
	15:1	0.70	0.5	25.0	221	200			20	34
	20:1	0.65	0.5	31.0	274	150			15	42
	30:1	0.58	0.4	41.0	363	100			10	55
	40:1	0.51	0.4	48.6	430	75			7	66
	60:1	0.47	0.4	67.0	593	50			5	89
	80:1	0.45	0.3	85	752	37.5			3.5	112
	100:1	0.44	0.3	106	934	30			3	139
	120:1	0.44	0.3	127	1121	25			2.5	167
	140:1	0.44	0.3	148	1308	21			2	195
	1:1	1.7	1.3	4.10	36	3000			300	6.3
	3:1	1.3	0.9	9.20	81	1000			100	14
	5:1	1.3	0.9	15.4	136	600			60	24
V4	10:1	1.3	0.9	31	274	300	1700	60	30	48
	15:1	1.3	0.9	45.2	400	200			20	72
	20:1	1.2	0.9	55.0	487	150			15	84
	30:1	1.1	0.8	75.5	668	100			10	116
	40:1	1	0.7	90	800	75			7	142
	50:1	0.9	0.7	105	929	60			6	161
	60:1	0.8	0.6	118	1040	50			5	185
	70:1	0.8	0.6	138	1220	42.9			4	207
	80:1	0.8	0.6	158	1396	37.5			3.5	237
	100:1	0.8	0.6	205	1814	30			3	308
	120:1	0.8	0.6	237	2093	25			2.5	355
	140:1	0.8	0.6	285	2522	21			2	428
	1:1	4	3	10	89	3000	3620	128	300	13
	3:1	3.5	2.6	25	221	1000			100	33
	5:1	3.4	2.5	40	354	600			60	52
	10:1	3.4	2.5	81	720	300			30	107
	15:1	3	2.2	105	929	200			20	137
	20:1	2.7	2	124	1100	150			15	175
	30:1	2.4	1.8	169	1496	100			10	220
	40:1	2.1	1.6	195	1725	75			8	283
	50:1	2	1.5	238	2106	60			6	309
	60:1	2	1.5	290	2567	50			5	377
	80:1	2	1.5	380	3363	37.5			3.8	646
	100:1	1.9	1.4	446	3947	30			3	580
	120:1	1.9	1.4	540	4779	25			2.5	703
	150:1	1.9	1.4	675	5974	20			2	878
V6	200:1	1.8	1.3	900	7965	15	3820	135	1.8	1170
	360:1	1.8	1.3	1600	14160	8			1.7	1675
	1:1	5.3	3.9	15	132	2500			300	21
	3:1	4.6	3.5	40	354	833			100	54
	5:1	4.5	3.3	63	558	500			60	85
	10:1	4.5	3.3	127	1124	250			30	171
	20:1	3.7	2.8	209	1850	125			15	288
	30:1	3.1	2.3	266	2354	83			10	360
	40:1	2.7	2	309	2735	63			8	417
	50:1	2.6	2	375	3319	50			6	506
	60:1	2.5	1.9	427	3779	42			5	576
	80:1	2.5	1.9	560	4956	31.3			3.8	755
	100:1	2.5	1.9	700	6195	25			3	943
	125:1	2.5	1.9	880	7788	20			2.4	1161
	140:1	2.5	1.9	980	8673	17.9			2.1	1293
V8	180:1	2.5	1.9	1269	11231	13.9	4955	175	1.7	1675
	1:1	9.5	7.1	34	300	2000			300	43
	3:1	7	5.2	75	664	666			100	92.3
	5:1	6.7	5	116	1027	400			60	143
	10:1	6.7	5	238	2106	200			30	293
	20:1	6.5	4.9	472	4177	100			15	585
	30:1	5.5	4.1	592	5239	66			10	728
	40:1	5.6	3.4	650	5753	50			7.5	800
	60:1	4.6	3.4	975	8629	33.3			4.9	1200
	80:1	4.6	3.4	1300	11505	25			3.8	1599
	100:1	4.3	3.2	1530	13541	20			3	1882
	120:1	4.3	3.2	1830	16196	16.7			2.5	2250
	1:1	9.5	7.1	34	300	2000	7787	275	300	43
	3:1	7	5.2	75	664	666			100	92.3
	5:1	6.7	5	116	1027	400			60	143
	10:1	6.7	5	238	2106	200			30	293
	20:1	6.5	4.9	472	4177	100			15	585
	30:1	5.5	4.1	592	5239	66			10	728
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	60:1	4.6	3.4	975	8629	33.3			4.9	1200
	80:1	4.6	3.4	1300	11505	25			3.8	1599
	100:1	4.3	3.2	1530	13541	20			3	1882
	120:1	4.3	3.2	1830	16196	16.7			2.5	2250
V16	1:1	9.5	7.1	34	300	2000	7787	275	300	43
	3:1	7	5.2	75	664	666			100	92.3
	5:1	6.7	5	116	1027	400			60	143
	10:1	6.7	5	238	2106	200			30	293
	20:1	6.5	4.9	472	4177	100			15	585
	30:1	5.5	4.1	592	5239	66			10	728
	40:1	5.6	3.4	650	5753	50			7.5	800

With Gearbox Reducer



With Compact Reducer

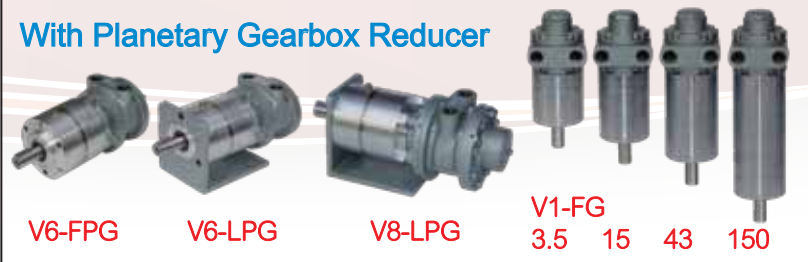


Refer to our Gearbox Division / Brochure for extensive range of gearboxes available.

With Worm Gearbox Reducer



With Planetary Gearbox Reducer



With Hand Control Valve



With Remote Control



With Brake



With Customed Flange



Special Material



Double Shaft



Dedicated to Mixers



We can customise air motors.

AIR GEARMOTORS

For applications where precise and variable turning power and speed is a requirement. Examples are bolt tensioning equipment or rock drilling rigs, precise lifting, lowering, traversing or turning. Unlike electric gearmotors, no chance of burn-out nor heat buildup with TONSON Air Motors. Direction of rotation is instantly reversible.

Precise Turning Power, High Torque Capacity



V1-FG3.5



V1-FG15



V1-FG43



F



Foot



refer to gearbox
division for full
range gearboxes.

BRAKES

For applications where positive braking is a requirement, a range of caliper brakes is offered. These are designed to withstand full stall torque of the air motor. The brake consists of two spring supplied shoes pressed against a central hub. The shoes are released by applying air pressure to the cylinder/piston assembly. The brake torque can be carried by adjustment of two spring adjusters but it is normally set so that a pilot pressure of 4 bars (60 PSI) will fully release it.



V6-LB
(Foot, Brake)



V6-LB
(Flange, Brake)



V8-FRCV
(Flange, Brake,
Remote Control Valve)

How to Order

V6 - F B G10 RCV

Motor	Mounting		Brake Option		Reducer Option				Valve Option	
V1	F	Face/Hub	Blank	No Brake	Blank	No Reducer			Blank	No Valve
VA1	L	Foot	B	Brake	G3	1/3	G30	1/30	HCV	Hand Control Valve
V2	B	Butterfly			G5	1/5	G40	1/40	RCV	Remote Control Valve
V4	N	NEMA			G10	1/10	G60	1/60		
V6	I	IEC			G15	1/15	G80	1/80		
V8					G20	1/20	G100	1/100		
V16										

*Other Gearbox ratios / variations are available contact us for quote.

AIR MOTOR ACCESSORIES

Control Vales



HV1 Mini
Reverse
Control

HV2
Reverse
Control

HV3
Reverse
Control

HV4
Reverse
Control

Pressure
Gauge

Air
Regulator

APPLICATION

Model	Vane Air Motor							
	VA1	V1	V2	V4	V6	V8	V16	
HV1 Mini (1/4")	●	●	●	●				
HV2(1/4")	●	●	●	●				
HV3(1/2")					●	●		
HV4(1")							●	
HCV1(RCV1)1/2"					★	★		
HCV2(RCV2)3/4"								
HCV3(RCV3)1"							●	
HCV4(RCV4)1-1/4"							★	
HCV5(RCV5)1-1/2"								
HCV6(RCV6)2"								

● Standard

★ Better
Performance

Silencer



Model	SC2	TC1	TC2S	TC3	TC4	MF1	MF3	MF5	MF7	MF9	MF11	NM1	NM2	NM3	SM1	SM2	SP1	SP2	SP2L	SP3	SP4	PL1	PL2	PL3	PL4	PL5	PL6
Caliber(PT)	2"	1"	1-1/2"	1-1/2"	2"	3/8"	1/2"	3/4"	1"	1-1/2"	2"	1/8"	1/4"	1/2"	1/4"	1/2"	1/8"	1/4"	1/4"	3/8"	1/2"	1/8"	1/4"	3/8"	1/2"	3/4"	1"
Dia. O	86	100	70	100	100	80	90	100	112	132	150	48	76	78	40.5	65	16	16	20	26	28	12	19	20	24	40	49
Height mm	256	202	164	217	211	129	147	171	195	259	312	48	58	107	50	80	34	37	62	67	70	30	42	57	55	113	112
Material	Carbon Steel	Filter:Fiber Shell:Steel				Filter:A5052P.SPCC Shell:PC.A2011						Adsorb Active Carbon		Industrial Cotton		Forming Resin (5μm)				Filter: Plastic Particle Shell: Engineering Plastic							

FRL (Filter, Regulator, and Lubricator)



FRL1/4 Mini

FRL1/4 FRL1/2

FRL1

FRL2

FRL(1/4")
Stainless Steel

Model	Vane Air Motor							Caliber	Mass (kg)
	VA1	V1	V2	V4	V6	V8	V16		
FRL1/4 Mini								1/4"	0.2
FRL1/4	●	●	●	●				1/4"	0.5
FRL1/2					●	●		1/2"	1.41
FRL1							●	1"	4.43
FRL1-1/4							★	1-1/4"	7.5
FRL2								2"	12

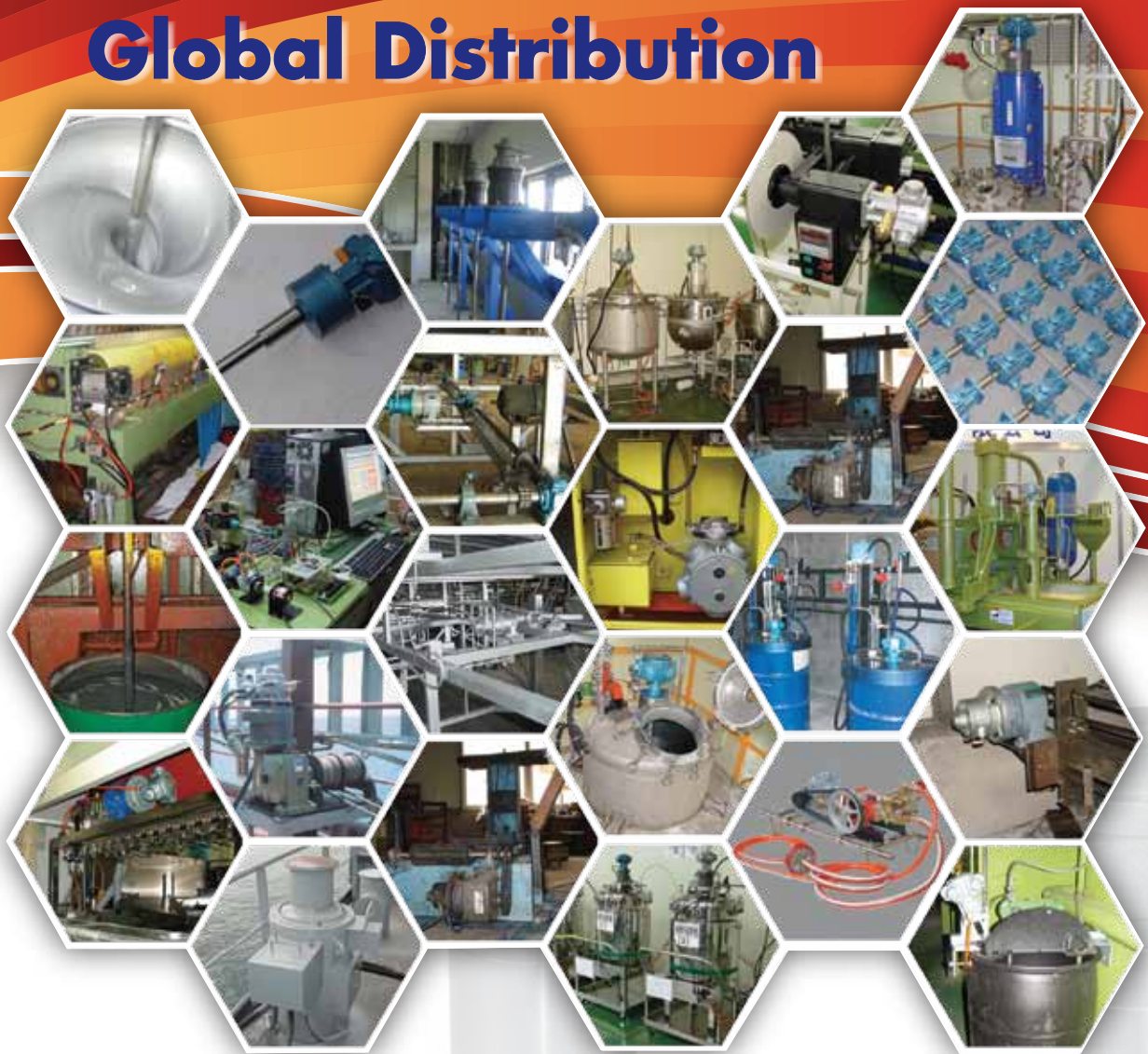
● Standard

★ Better
Performance

Model	FRL1/4Mini	FRL1/4 & FRL1/2	SS1/4	FRL1	FRL2
Dimension(cm)	9x4.5x17.5	16x7x23.5	11.5x7x24.5	17.8x7x28	65x16x72

FRL (Filter, Regulator, and Lubricator) are recommend to improve air motor performance and provide longer life.

Global Distribution



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