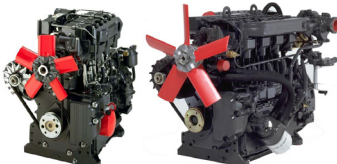
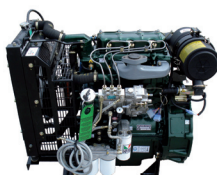
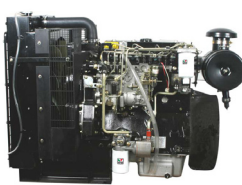


Diesel and Gas Engines																																					
Cooling				Air-Cooled								Liquid-Cooled																									
Fuel				Diesel												Gas			Bio Diesel			Diesel															
Key to Emissions Compliance:																																					
Fully compliant (EU, USA, India)																																					
EU 3A and India GSR 448 (E)																																					
EU Stage 3A and USA Int. Tier 4																																					
USA Interim Tier 4 only																																					
EU Stage 3A only*																																					
*[†] denotes compliant to EU Stage 2 only																																					
																																					
Engine series				A-Series		L-Series		T-Series		ALPHA				NEW ALPHA				ALPHA Gas			ALPHA Bio			SIGMA			DELTA	GAMMA					OMEGA				
Engine model				AC1	AD1	LT1	LV1	TR1	TR2	TR3	LPW2	LPW3	LPW4	LPWT4	LPWS2	LPWS3	LPWS4	LPWST 4	LPWG2	LPWG3	LPWG4	LPWS Bio2	LPWS Bio3	LPWS Bio4	SW20	SW25	SW30	DWS4	GW4	GWT4	GWT6-1A	GWT6-2A	GWTA6	OWT6	OWTA6		
V/G build (=variable/fixed speed)				V/G	V/G	V/G	V/G	V/G	V/G	V/G	V/G	V/G	V/G	V/G	V/G	V/G	V/G	V/G	G	G	G	G	G	G	G	G	G	V/G	G	G	G	G	G	V/G	V/G		
Minimum full-load speed (r/min)				1500	1500	1000	1000	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1200	1500	1500	1500	1500	1500	1000	1000		
Maximum full-load speed (r/min)				3600	3600	3000	3000	2500	2500	2500	3600	3600	3600	3000	3000	3000	3000	1800	1800	1800	1800	1800	1800	1800				2500	1800	1800	1800	1800	1800	2200	2200		
Number of cylinders L=in-line; H=horizontal				1 L	1 L	1 L	1 L	1 L	2 L	3 L	2 L	3 L	4 L	4 L	2 L	3 L	4 L	4 L	2 L	3 L	4 L	2 L	3 L	4 L	3 L	3 L	4 L	4 L	4 L	4 L	6 L	6 L	6 L	6 L	6 L		
Bore (mm)	mm	76	80	83	86	98	98	98	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	91	105	105	94	100	100	100	100	100	126	126			
	in.	2.99	3.15	3.25	3.38	3.89	3.89	3.89	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.39	3.60	4.13	4.13	3.70	3.94	3.94	3.94	3.94	3.94	4.96	4.96			
Stroke (mm)	mm	67	73	76	83	102	102	102	80	80	80	80	80	80	80	80	80	80	80	80	80	80	127	110	110	120	127	127	127	127	127	130	130				
	in.	2.64	2.87	3.00	3.25	4.00	4.00	4.00	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	5	4.33	4.33	4.72	5.00	5.00	5.00	5.00	5.00	5.12	5.12				
Displacement per cylinder	litres	0.30	0.37	0.41	0.48	0.77	0.77	0.77	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.83	0.95	0.95	0.83	0.99	0.99	0.99	0.99	0.99	1.62	1.62				
	in. ³	18.3	22.6	25.0	29.3	47.0	47.0	47.0	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	28.7	50.8	58.1	58.1	50.1	60.4	60.4	60.4	60.4	60.4	98.8	98.8				
Injection: D=direct; I=indirect				Direct		Direct		Direct		Direct				Indirect				N/A (spark ignition)			Indirect			Direct			I	Direct					Direct				
Aspiration: N=natural; T=turbo; I=intercooled				Natural		Natural		Natural		Natural				Natural				Natural			Natural			Natural			N	N	T	T	T	T	T, I	T	T, I		
Starting: H=hand; R=rope; E= electric; 0=optional				H (RE)	H (RE)	H (E)	H (E)	H (E)	H (E)	H (E)	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E		
Variable Speed Builds	Outputs to ISO 3046	1500 r/min	Continuous	kW	2.1	2.5	3.0	3.5	5.5	11.0	16.8	6.8	10.3	13.6	20.7	7.4	11.1	14.7										30.2									
				bhp	2.8	3.4	4.0	4.8	7.4	14.8	22.5	9.1	13.8	18.2	27.7	9.9	14.9	19.7										40.5									
			Intermittent	kW	2.3	2.8	3.3	3.9	6.1	12.1	18.5	7.5	11.3	15.0	22.3	8.1	12.2	16.2										31.6									
				bhp	3.1	3.7	4.4	5.2	8.2	16.2	24.8	10.0	15.1	20.1	29.9	10.9	16.4	21.7										42.4									
		2000 r/min	Continuous	kW	2.8	3.4	4.0	4.8	7.3	14.5	22.2	9.6	14.5	19.3	28.7	10.1	15.2	20.2										39.0									
				bhp	3.8	4.6	5.4	6.4	9.8	19.4	29.8	12.9	19.4	25.9	38.5	13.5	20.4	27.0										52.3									
			Intermittent	kW	3.1	3.7	4.4	5.3	8.0	16.0	24.4	10.6	15.9	21.2	31.0	11.1	16.7	22.2										40.3									
				bhp	4.2	5.0	5.9	7.0	10.7	21.5	32.7	14.2	21.3	28.4	41.5	14.9	22.3	30.0										54.0									
	2500 r/min	Continuous	kW	3.7	4.3	5.0	5.8	8.6	17.3	25.9	11.8	17.7	23.6	34.3	12.2	18.3	24.4											46.3									
			bhp	5.0	5.8	6.7	7.8	11.5	23.2	34.7	15.8	23.7	31.6	46.0	16.3	24.5	32.7											62.1									
		Intermittent	kW	4.1	4.8	5.5	6.4	9.5	19.0	28.5	13.0	19.5	26.0	36.7	13.4	20.1	26.8											48.5									
			bhp	5.5	6.4	7.4	8.6	12.7	25.5	38.2	17.4	26.1	34.8	49.1	18.0	26.9	35.9											65.0									
	3000 r/min	Continuous	kW	4.5	5.3	5.6	6.7				13.4	20.1	26.8	37.5	13.4	20.1	26.8																				
			bhp	6.0	7.1	7.5	9.0				18.0	27.0	35.9	50.2	18.0	26.9	35.9																				
		Intermittent	kW	4.9	5.8	6.2	7.4				14.7	22.1	29.5	40.2	14.7	22.1	29.5																				
			bhp	6.6	7.8	8.3	9.9				19.7	29.6	39.5	53.9	19.7	29.6	39.5																				
Fixed Speed Builds	Power Outputs to ISO 3046	1500 r/min, 50 Hz	Continuous	kW	2.1	2.5	3.0	3.5	5.5	11.0	16.8	7.5	11.3	15.0	18.9	7.5	11.3	15.0	18.9	5.3	9.9	13.2	6.9	10.4	13.8	21.8	25	30.9	28.7 ¹	40.0	65.7	84.3	92.3	121	138	200	
				bhp	2.8	3.4	4.0	4.8	7.4	14.8	22.5	10.1	15.2	20.1	25.3	10.1	15.2	20.1	25.3	7.1	13.3	17.7	9.3	14.0	18.5	29.2	33.5	41.4	38.5 ¹	53.6	88.1	113	124	162	185	268	
			Intermittent	kW	2.3	2.8	3.3	3.9	6.1	12.1	18.5	8.2	12.4	16.5	20.8	8.2	12.4	16.5	20.8	5.8	10.9	14.5	7.5	11.4	15.2	24	27.5	34	31.6 ¹	44.0	72.3	92.7	102	134	152	220	
				bhp	3.1	3.7	4.4	5.2	8.2	16.2	24.8	11.0	16.6	22.1	27.8	11.0	16.6	22.1	27.8	7.8	14.6	19.5	10.1	15.3	20.3	32.1	36.9	45.6	42.3 ¹	59.0	96.9	124	137	180	204	295	
		1800 r/min, 60 Hz	Continuous	kW	2.4	3.0	3.6	4.3	6.7	13.1	20.2	9.3	13.9	18.6	23.8	9.3	13.9	18.6	23.8	6.8	12.3	16.4	8.6	12.8	17.1					33.2	44.0	75.6	97.6	108	134	154	235
				bhp	3.2	4.0	4.8	5.8	9.0	17.6	27.1	12.5	18.6	24.9	31.9	12.5	18.6	24.9	31.9	9.1	16.5	22.0	11.5	17.1	22.9					44.5	59.0	101	131	145	180	206	315
			Intermittent	kW	2.7	3.3	4.0	4.7	7.4	14.4	22.2	10.2	15.3	20.3	26.2	10.2	15.3	20.3	26.2	7.5	13.6	18.1	9.4	14.1	18.7					36.5	48.4	83.2	107	119	147	169	258
				bhp	3.6	4.4	5.4	6.3	9.9	19.3	29.8	13.7	20.5	27.2	35.1	13.7	20.5	27.5	35.1	10.0	18.2	24.2	12.6	18.9	25.3					48.9	64.9	112	144	160	197	226	346
	3000 r/min, 50 Hz	Continuous	kW	4.5	5.3	5.6	6.7				13.4	20.1	26.8	37.5	13.4	20.1	26.8																				
			bhp	6.0	7.1	7.5	9.0				18.0	26.9	35.9	50.3	18.0	26.9	36.0																				
		Intermittent	kW	4.9	5.8	6.2	7.4				14.7	22.1	29.5	41.3	14.7	22.1	29.5																				
			bhp	6.6	<																																