



- 3 cylinders
- 1870 cm³
- 30.8 kW/42.0 HP
- 3000 r.p.m.
- Nm. 110@2000

Homologation

- EPA TIER 2 ■
- 97/68/CE ●
- ECE R 24-03 ▲

Construction

- 4-stroke air cooled diesel engine
- Direct injection
- Axle blower air cooling
- Mechanical fuel lift pump
- Forced lubrication with gear pump
- Full flow oil filtration with external cartridge filter
- Automatic mechanical fuel supplement
- Torque regulator
- Centrifugal speed governor
- Crankcase in die-cast aluminium
- Electric starting
- Counter-clockwise rotation (viewed from power take-off side)
- Aluminium alloy independent heads
- Independent cast-iron cylinders
- Power take-off on flywheel
- Oil cooler



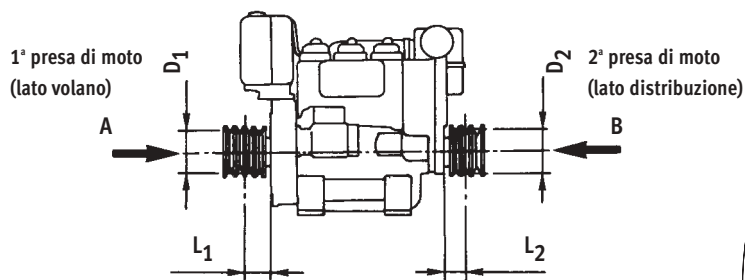
Applications

- Dumper
- Vibrating Roller
- Generating Set
- Welding Set
- High pressure cleaner
- Hydraulic power pack
- Agricultural pump
- Two-wheel tractor

Specifications

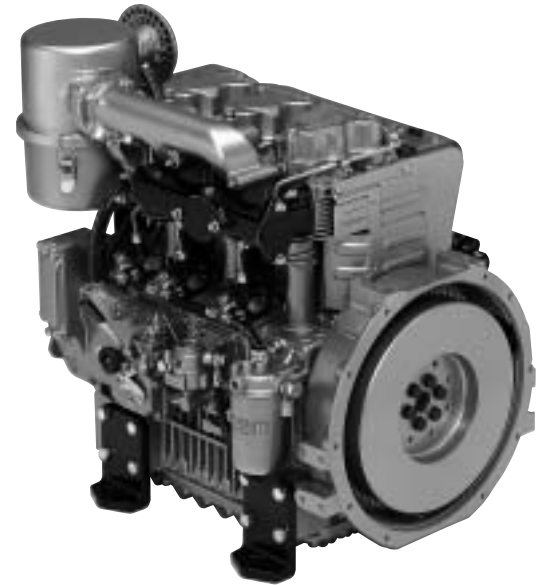
Cylinders	N.	3
Displacement	cm ³	1870
Bore	mm	95
Stroke	mm	88
Compression ratio		17:1
Rating kW/HP	N (80/1269/CEE) ISO 1585	30.8/42.0
	NB ISO 3046 IFN	28.6/39.0
	NA ISO 3046 ICXN	26.3/35.8
Max. torque	Nm.	115@2000
Max. torque 3 P.T.O.	Nm.	39.0
Counterclockwise rotation		
Engine speed - 3 P.T.O. ratio		1:1.06
Max. torque - 4 P.T.O. ratio	Nm.	23.8
Counterclockwise rotation		
Engine speed - 4 P.T.O. ratio		1:1.1
Minimum idling speed r.p.m.		800-900
Fuel tank capacity	l	15
Oil consumption	kg/h.	0.017
Oil sump capacity	l	5
Min. allowable oil pressure	bar	1.5
Max. allowable inclination for short periods of operation (peak values)		25° (35°)
Vol. of air required for correct combustion @3000 r.p.m.	l/min.	2400
Vol. of air required for correct cooling @ 3000 r.p.m.	l/min.	38000
Dry weight	kg	170
Recommended battery	V/Ah	12/66
Axial load	(continuous)	kg 300
	(intermittent)	kg 600

Minimum pulley diameters for belt drive



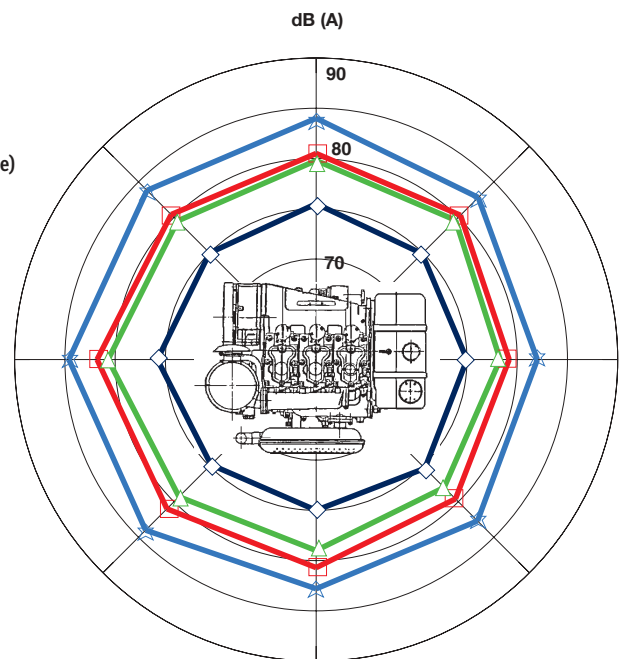
$$D_1 \text{ (mm)} \geq 100 [185+L_1 \text{ (mm)}] \frac{N \text{ (kW)}}{n \text{ (RPM)}}$$

$$D_2 \text{ (mm)} \geq 110 [169+L_2 \text{ (mm)}] \frac{N \text{ (kW)}}{n \text{ (RPM)}}$$



Sound pressure level dB (A)

Sound level polar diagram open field - 7 meters microphone - no load running engine.

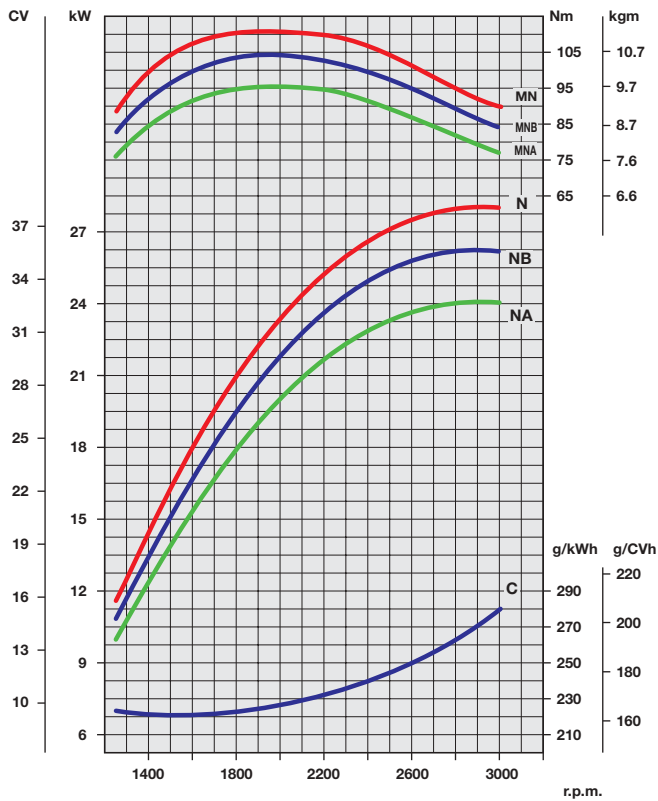


1500 RPM 2000 RPM 2500 RPM 3000 RPM

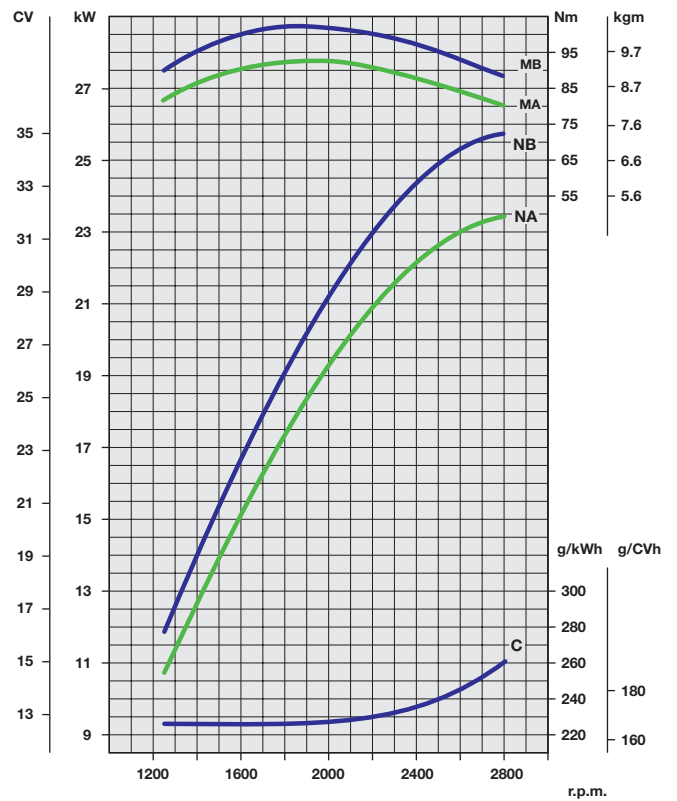
SERIE SP

Curves

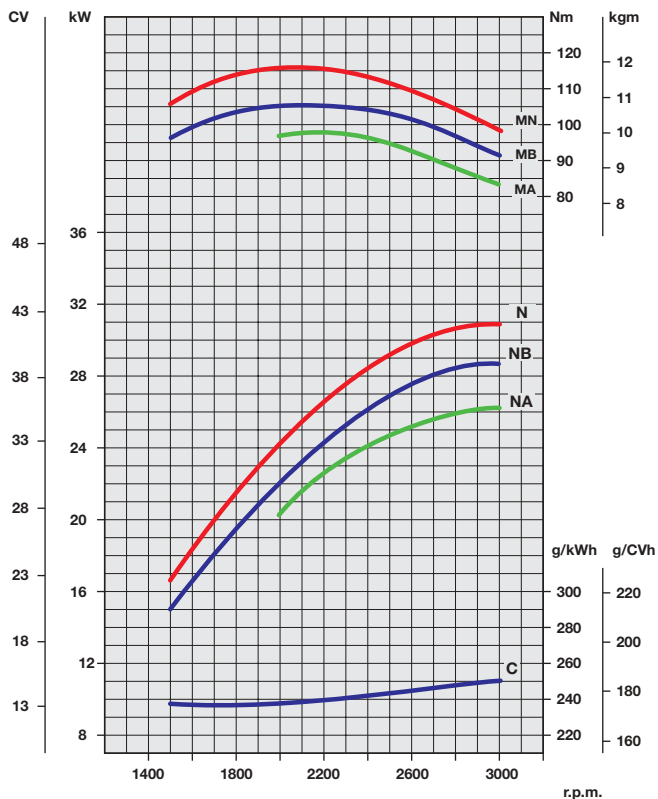
SP 420 NR @ 3000 r.p.m. ■ ● ▲



SP 420 B2 NR @ 2800 r.p.m. ■ ● ▲



SP 420 @ 3000 r.p.m.



N Power curve - 80/1269/CEE - ISO 1585 -

NB Power curve - ISO 3046/1 - IFN -

NA Power curve - ISO 3046/1 - ICXN -

MN Torque curve - (N curve)

MB (B curve - **MA** (A curve)

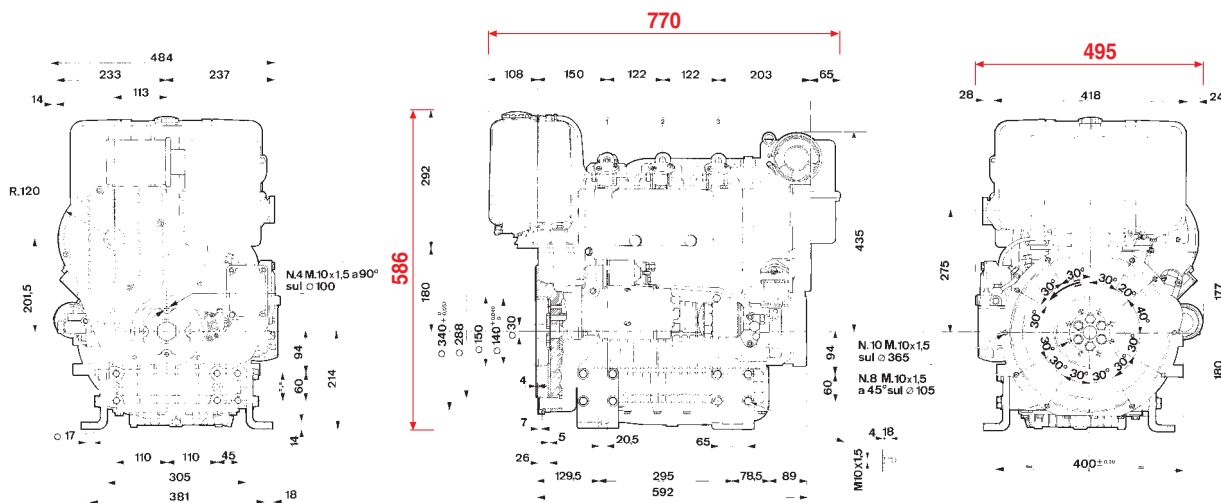
C Specific fuel consumption - (NB curve)

Output power for fixed speed application (including generating sets)

Engine power kW

r.p.m.	Intermittent (NB)	Continuous (NA)
3000	28.6	26.3
1800	20.0	18.0
1500	16.7	14.7

Technical drawings *



* More specific dimensions are available on www.ruggerini.it (see table at the bottom of the page)

Standard equipment

- Electric starter with 12V alternator
- Black paint on sheet metal parts
- Manual control accelerator (fixed)
- Oil bath air filter
- External fuel filter
- Oil pressure switch
- External oil filter
- Exhaust manifold and muffler with protection
- Engine feet
- Power take-off on flywheel
- Belt protection
- Fuel lift pump
- Counter-clockwise rotation on power take-off side
- Fuel tank
- Automatic mechanical supplement
- Oil cooler
- User maintenance - spare parts booklet

Accessories on request

- Different guards according to use
- Range of alternative alternators
- Control board
- Clutches
- Range of flywheels for various clutches
- Flanges
- Hydraulic pump adapters
- Range of fuel tanks of various sizes
- Mufflers and exhaust pipes
- Controls
- Pulleys
- Cyclonic air prefilter
- Detached dry air filter
- Varnishing



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Files for this product available on www.ruggerini.it

Data sheet	SP420DS.PDF
Owner manual	SP420OM.PDF
Service manual	SP420SM.PDF
Technical drawing	SP420TD.DWG
Power curve	SP420PC.PDF

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