

**L9**

**5700-12000cc**

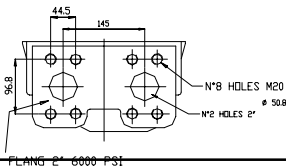
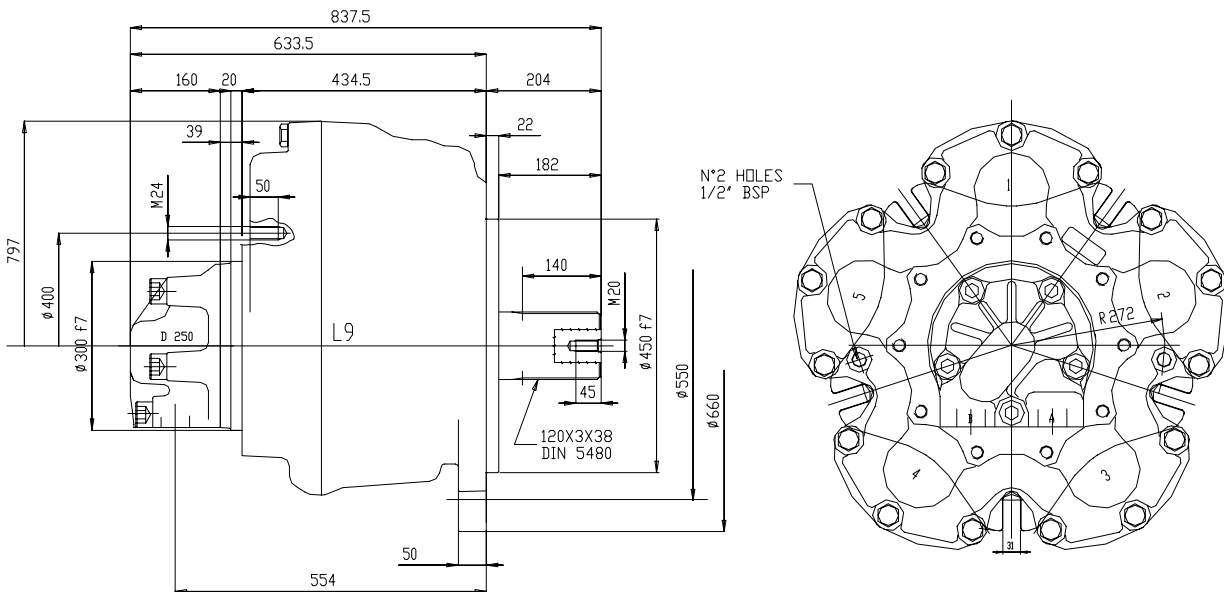
**225 kW**

**280 rpm**

**420 bar**

**290 kg**

L9			5700	6600	7700	8800	10000	12000
Displacement	<i>Cilindrata</i>	cm <sup>3</sup>	5655	6637	7697	8836	10053	12026
Piston diameter	<i>Diametro pistone</i>	mm	120	130	140	150	160	175
Shaft stroke	<i>Corsa albero</i>	mm	100	100	100	100	100	100
Specific torque <sup>(1)</sup>	<i>Coppia specifica<sup>(1)</sup></i>	Nm/bar	88,3	104	120	138	157	188
Torque at 250 bar <sup>(1)</sup>	<i>Coppia a 250 bar<sup>(1)</sup></i>	Nm	18533	21751	25226	28958	32948	39416
Peak power	<i>Potenza di picco</i>	kW	260	300	320	345	360	375
Peak speed	<i>Velocità di picco</i>	rpm	150	145	140	130	120	110
Pressure rating	<i>Pressione nominale</i>	250 bar	(1) Theoretical torque <i>Coppia teorica</i>					
Peak pressure	<i>Pressione di picco</i>	420 bar						
Approx. weight	<i>Peso approssimativo</i>	700 kg						
Case oil quantity	<i>Quantità olio in carcassa</i>	60 lit						
Moment of inertia	<i>Momenti d'inerzia</i>	0.432 kgm <sup>2</sup>						



## ORDER CODES

**L9 - 1 / 2 / 3 / 4 + 5 ; 6 / 7**

## CODICI D'ORDINE

1. **Nominal displacement** - see motor spec. table.
2. **Shaft option:**
  - 7 = male 120-3-38 DIN 5480 (std)
  - 9 = female 100-3-32 DIN 5480
3. **Bearings:**
  - G = spherical roller bearings (std)
4. **Other options:**
  - U = without shaft seal
  - SV = shaft seal protection
  - (see page ...) VY = Vytan seals
  - I = case press. relief valve 3 bar
5. **Distributor code:** (see page ...)
6. **Direction of shaft rotation:** with flow in port A, out port B, viewed from shaft end
  - no code = clockwise rotation (standard)
  - L = anti-clockwise rotation
7. **Distributor cover position:** (see page ...)
  - no code = DM1 (standard)
  - DM. = (DM2/3/4/5) other position

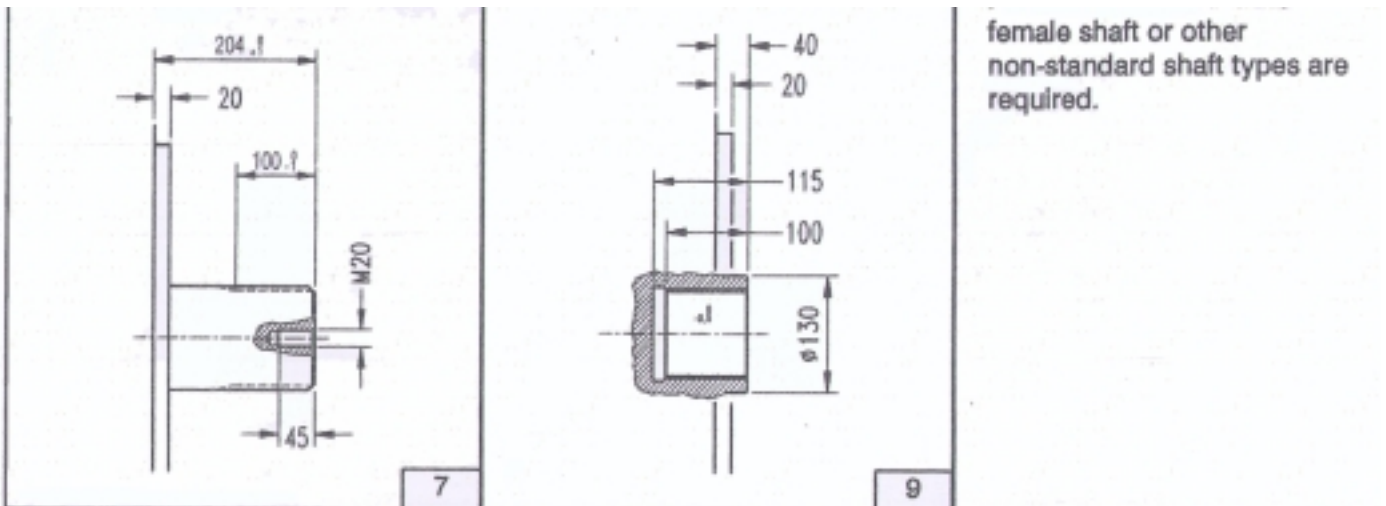
1. **Cilindrata nominale** - vedi tabella cilindrata.
2. **Opzioni**
  - 7 = maschio 120-3-38 DIN 5480 (std)
  - albero: 9 = femmina 100-3-32 DIN 5480
3. **Cuscinetti:**
  - G = cusc. a rulli orientabili (std)
4. **Altre opzioni:**
  - U = senza tenuta albero
  - SV = protezione tenuta albero
  - (vedi pag. ...) VY = tenute in Vytan
  - I = valvola sfiato 3 bar
5. **Codice distributore:** (vedi pag. ...)
6. **Rotazione albero:** con portata in ingresso in port A, in uscita port B, visto dal lato albero
  - nessun codice = rotaz. in senso orario (std)
  - L = rotazione in senso anti-orario
7. **Orientamento coperchio distributore:** (vedi pag. ...)
  - nessun codice = DM1 (standard)
  - DM. = (DM2/3/4/5) altra posizione

## SHAFT OPTIONS

**7** 120-3-38 DIN 5480 (std)

**9** 100-3-32 DIN 5480

## ALBERI OPZIONALI



## BEARINGS



### SPHERICAL ROLLER BEARINGS

lifetime given in graphs

**on request:**  
**su richiesta:**

for bearings with longer lifetime please contact SAI  
per cuscinetti con durata maggiore si prega di contattare SAI

## CUSCINETTI

### CUSCINETTI A RULLI ORIENTABILI

vita indicata nei relativi grafici

**PERFORMANCE**

**Operating range  
Gamma di funzionamento**

- DP - operating press. - *press. di lavoro*
- M - theor. torque - *coppia teorica*
- Q - flow rate - *portata*
- V - shaft speed - *velocità albero*
- kW - input power - *potenza in ingr.*
- L<sub>10</sub> - bearing life<sup>1)</sup> - *vita cuscinetti<sup>1)</sup>*

**Overall efficiency  
Rendimento totale**

- DP - operating pressure - *pressione di lavoro*
- E<sub>T</sub> - overall efficiency - *rendimento totale*

**CURVE CARATTERISTICHE**

**Leakage  
Drenaggio**

- DP - operating pressure - *pressione di lavoro*
- Q<sub>L</sub> - leakage rate - *drenaggio*
- V<sub>E</sub> - speed loss/ creep speed<sup>2)</sup> - *perdita di vel./ vel. di slitt.<sup>2)</sup>*

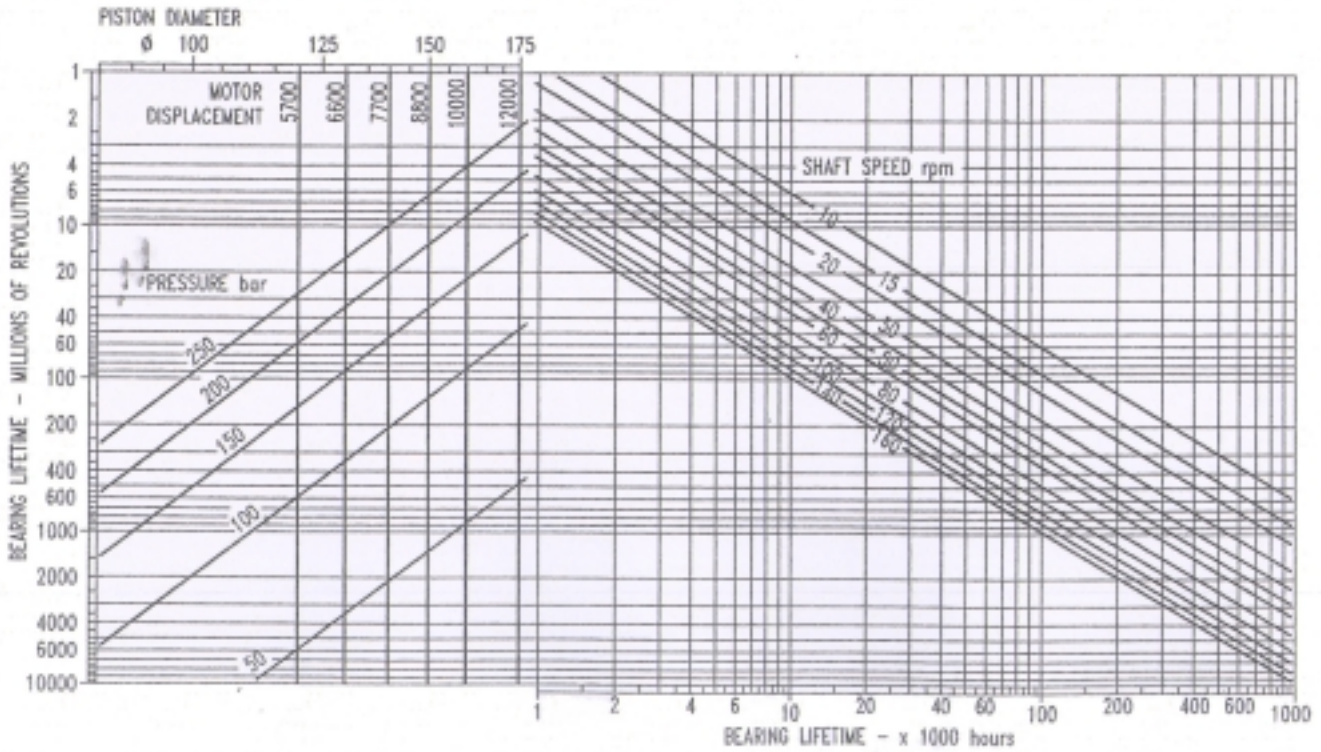
**Pressure drop  
Caduta di pressione**

- DP<sub>I</sub> - idling - *in folle*
- DP<sub>B</sub> - pumping (boost) - *pompaggio (sovralim.)*
- M<sub>E</sub> - "vacuum" torque absorb.<sup>3)</sup> - *coppia assorb. a "vuoto"<sup>3)</sup>*

1) With roller bearings option "H" (see page ...); 2) Counter-rotation against load with outlet blocked; 3) Torque absorption in "vacuum" freewheeling (see page ...)  
 1) Con cuscinetti a rulli opzione "H" (vedi pag. ...); 2) Contro-rotazione sotto carico con uscita bloccata; 3) Coppia assorbita a ruota libera "sotto vuoto" (vedi pag. ...)

**B<sub>10</sub> BEARING LIFETIME (rear bearing)**

This graph should be used if there is no radial load on the shaft. If the shaft has external radial loads then the lifetime graph for the front bearing should be used (see next page).



Example: 8800 cc motor at avge. press 200 bar, B<sub>10</sub> lifetime = 13.2 million revolutions; at 50 rpm = 4400 hours

**PERFORMANCE**

**Operating range**

**Gamma di funzionamento**

- ΔP - operating press. - *press. di lavoro*
- M - theor. torque - *coppia teorica*
- Q - flow rate - *portata*
- V - shaft speed - *velocità albero*
- kW - input power - *potenza in ingr.*
- L<sub>10</sub> - bearing life<sup>1)</sup> - *vita cuscinetti<sup>1)</sup>*

**Overall efficiency**  
**Rendimento totale**

- ΔP - operating pressure - *pressione di lavoro*
- E<sub>T</sub> - overall efficiency - *rendimento totale*

**Leakage**  
**Drenaggio**

- ΔP - operating pressure - *pressione di lavoro*
- Q<sub>L</sub> - leakage rate - *drenaggio*
- V<sub>E</sub> - speed loss/creep speed<sup>2)</sup> - *perdita di vel./vel. di slitt.<sup>2)</sup>*

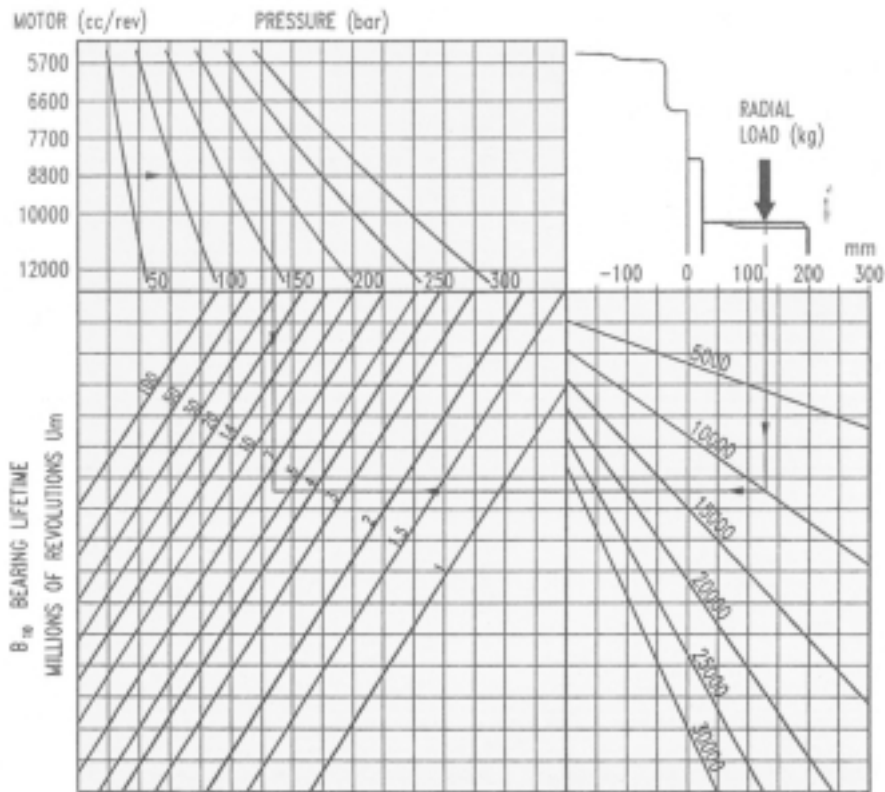
**CURVE CARATTERISTICHE**

**Pressure drop**  
**Caduta di pressione**

- ΔP<sub>I</sub> - idling - *in folle*
- ΔP<sub>B</sub> - pumping (boost) - *pompaggio (sovrallim.)*
- M<sub>E</sub> - "vacuum" torque absorb.<sup>3)</sup> - *coppia assorb. a "vuoto"<sup>3)</sup>*

1) With roller bearings option "H" (see page ...); 2) Counter-rotation against load with outlet blocked; 3) Torque absorption in "vacuum" freewheeling (see page ...)  
 1) Con cuscinetti a rulli opzione "H" (vedi pag. ...); 2) Contro-rotazione sotto carico con uscita bloccata; 3) Coppia assorbita a ruota libera "sotto vuoto" (vedi pag. ...)

This graph should be used if the shaft is loaded radially. If there are no radial loads on the shaft then the lifetime graph for the rear bearing should be used (see previous page).



The bearing lifetime in hours depends on the shaft speed and may be found using the graph on the previous page or by using the following formula:

$$\text{Lifetime (hours)} = \frac{\text{millions of revolutions} \times 1'000'000}{60 \times \text{shaft speed (rpm)}}$$

Example: L9 8800 working at 200 bar, with 10'000 kg radial load at 130 mm from the flange plane:  
 Lifetime = 5.3 million revolutions.  
 With a shaft speed of 50 rpm, then  
 Lifetime = 5.3 x 1'000'000 / (60 x 50) = 1760 hours

It is recommended that average operating pressures, speeds and powers be chosen in function of the desired bearing lifetime.

If the lifetime found is insufficient, please contact SAI.