

**POMPE A PISTONI ASSIALI PER CIRCUITO
APERTO CON REGOLAZIONE LOAD SENSING
O A PRESSIONE COSTANTE**

***OPEN CIRCUIT AXIAL PISTON PUMPS WITH
LOAD-SENSING OR CONSTANT PRESSURE
CONTROL***

**AXIALKOLBENPUMPEN FÜR DEN OFFENEN KREI-
SLAUF MIT LOAD-SENSING-REGELUNG ODER KON-
STANTDRUCKREGELUNG**

**HP A4B
34.46.58.65**

398SOP0063A01

HP A4B

POMPE A PISTONI ASSIALI PER CIRCUITO APERTO CON REGOLAZIONE LOAD SENSING O A PRESSIONE COSTANTE OPEN CIRCUIT AXIAL PISTON PUMPS WITH LOAD-SENSING OR CONSTANT PRESSURE CONTROL AXIALKOLBENPUMPEN FÜR DEN OFFENEN KREISLAUF MIT LOAD-SENSING-REGELUNG ODER KONSTANTDRUCKREGELUNG

Le pompe a pistoni assiali serie HP A4 sono state concepite per operare in circuito aperto.

I vari sistemi di regolazione disponibili le rendono facilmente adattabili alle esigenze applicative sia per il settore industriale che per quello mobile.

Lo sviluppo di gruppi rotanti appositamente concepiti, unito ad uno studio accurato delle sezioni di passaggio dell'olio, consentono a queste pompe di raggiungere elevate velocità di rotazione, come quelle richieste dai moderni motori diesel, garantendo una buona affidabilità per pressioni di funzionamento fino a 280 bar continui (350 bar di picco).

I controlli, esposti nella presente sezione, permettono un funzionamento con regolazione load sensing o a pressione costante.

Utilizzando le opportune predisposizioni, è possibile comporre versioni tandem.

The HP A4 series axial piston pumps have been designed to work in an open circuit. Control systems actually available are making easy to use these pumps in any application for industrial and mobile field. Development of rotating groups, especially designed, united to an accurate study of oil passage sections into the pumps, allow high speed rotation, like required by modern diesel engines, giving extreme reliability for working continuous pressure until 280 bar and until 350 bar for peak pressure.

Control types shown in this section allow a Load-sensing or a constant pressure control over the pump.

It is possible to couple Tandem versions for both pump types, by means of coupling proper flanges.

Die Axialkolbenpumpen der Serie HP A4 wurden für den Betrieb im offenen Kreislauf konzipiert.

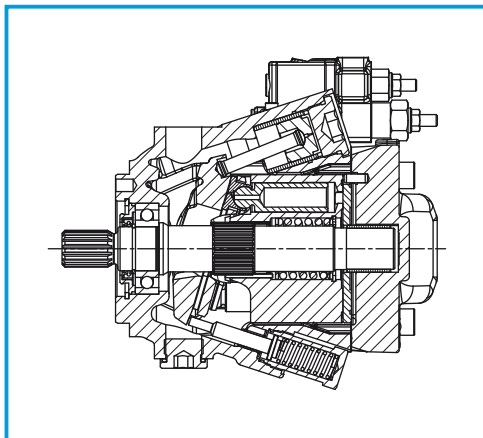
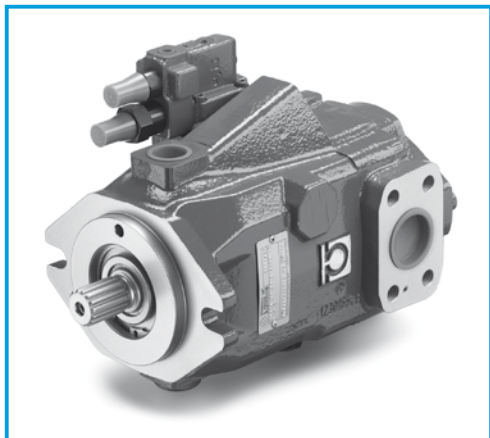
Die lieferbaren unterschiedlichen Steuerungssysteme eignen sich sowohl für stationäre als auch für mobile Anwendungen.

Speziell entwickelte Zylinderblöcke mit optimalen Saugverhältnissen erlauben den Einsatz bei hohen Pumpendrehzahlen, wie von modernen Antriebsaggregaten gefordert.

Die in diesem Abschnitt dargestellten Steuerungen sind mit Load-Sensing-Regelung oder Konstantdruckregelung lieferbar.

Für beide Pumpenfamilien können unter Anwendung von Anbauflanschen Tandemversionen zusammenggebaut werden.

HP A4B 34.46.58.65

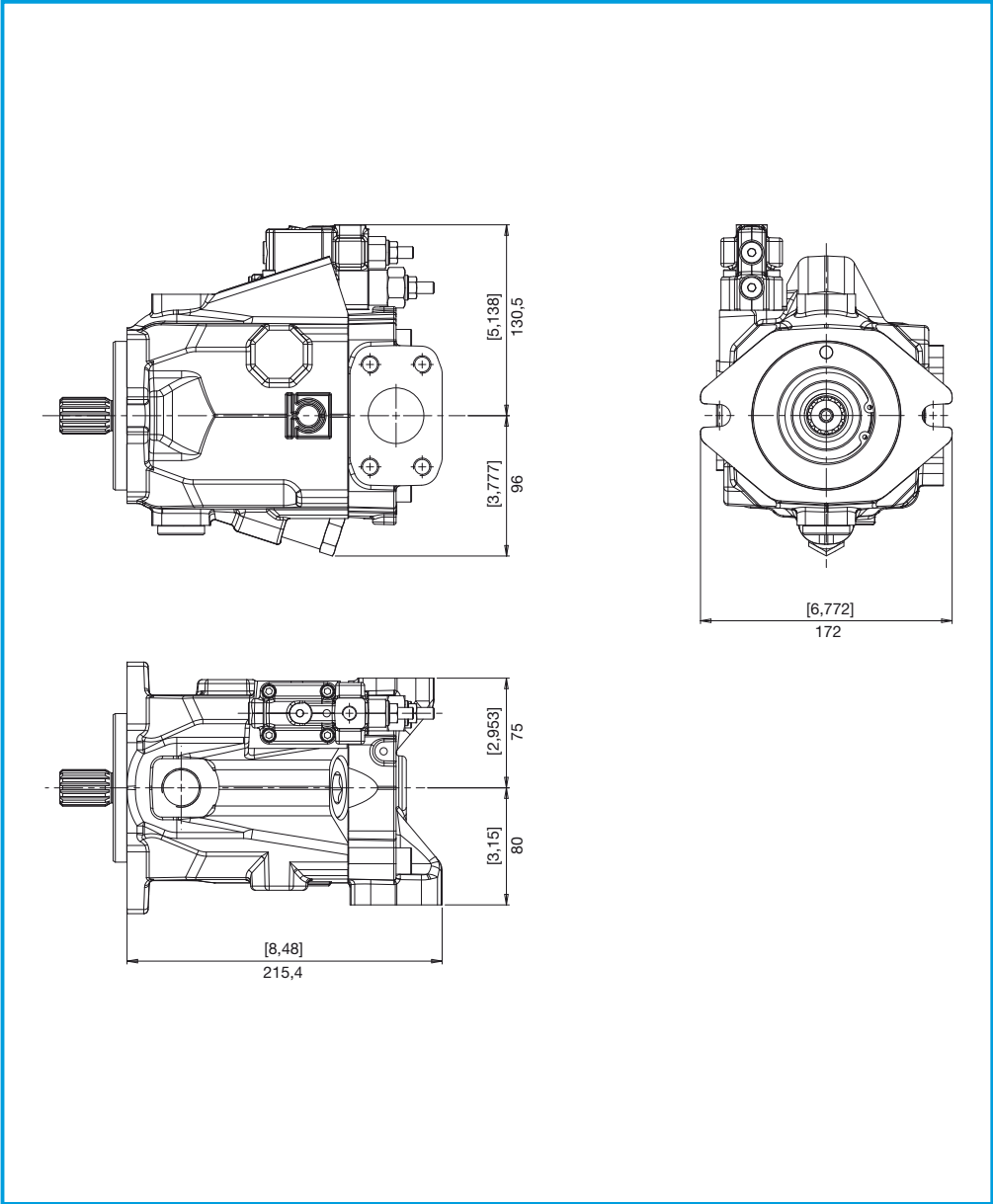


DATI TECNICI TECHNICAL DATA TECHNISCHE MERKMALE

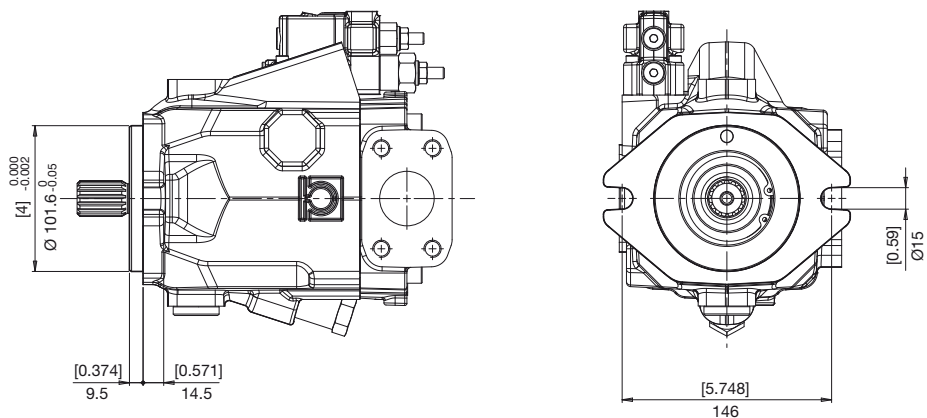
| GRUPPO GROUP BAUREIHE | CILINDRATA TEORICA NOMINAL DISPLACEMENT FORDERVOLUMEN (TM) | | OSCILLANTE SWASHPLATE SCHWENKWINKEL | CONTINUA CONTINUOUS DAUER | | PRESSIONE PRESSURE DRUCK | | PICCO PEAK SPITZEN | | VELOCITÀ DI ROTAZIONE SPEED DREHZAHL MAX MIN | | MASSA WEIGHT GEWICHT | |
|-----------------------------|---|-----------------|---|---------------------------------|------|--------------------------------|------|--------------------------|------|---|-------------------|----------------------------|------|
| | cm ³ | in ³ | | bar | psi | bar | psi | bar | psi | min ⁻¹ | min ⁻¹ | kg | lbs |
| HP A4B | 34 | 2,08 | 14 | 280 | 4060 | 320 | 4640 | 350 | 5075 | 2800 | 500 | 23 | 52,8 |
| | 46 | 2,51 | 19 | 280 | 4060 | 320 | 4640 | 350 | 5075 | 2800 | 500 | 23 | 52,8 |
| | 58 | 3,54 | 17 | 250 | 3625 | 300 | 4350 | 320 | 4640 | 2650 | 500 | 24 | 57,2 |
| | 65 | 3,97 | 18 | 250 | 3625 | 300 | 4350 | 320 | 4640 | 2500 | 500 | 24 | 57,2 |

**DIMENSIONI
 SIZE
 ABMESSUNGEN**

HP A4B

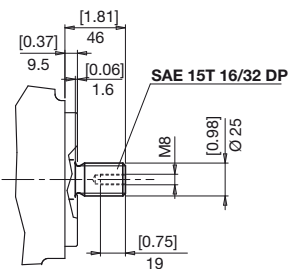


B SAE B
SAE B
SAE B

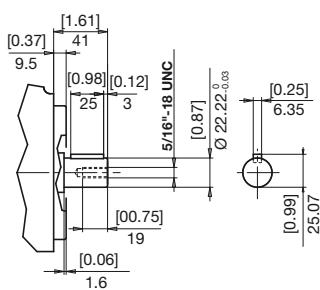


ESTREMITÀ ALBERI
SPLINE SHAFTS
WELLENPROFILE

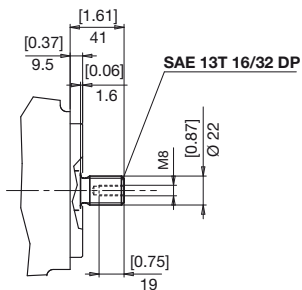
1 COPPIA MAX
MAX TORQUE 460 N•m
MAX DREHMOMENT



6 COPPIA MAX
MAX TORQUE 210 N•m
MAX DREHMOMENT



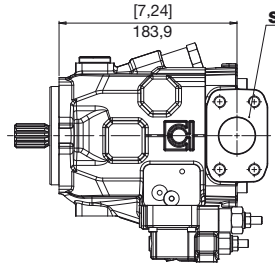
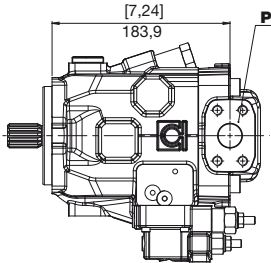
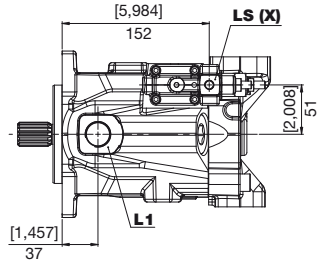
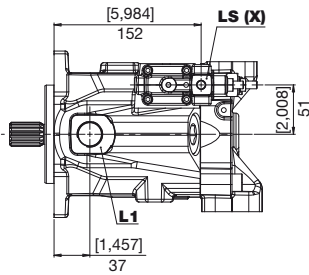
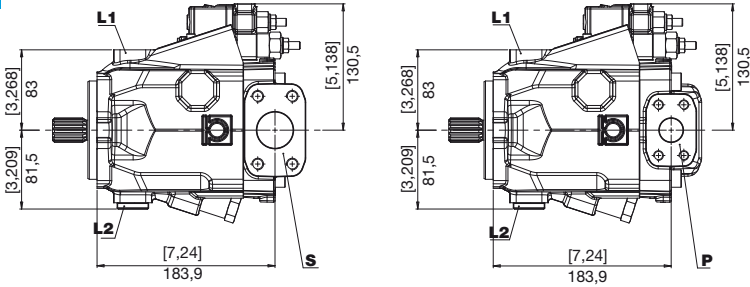
9 COPPIA MAX
MAX TORQUE 310 N•m
MAX DREHMOMENT



BOCCHIE LATERALI
LATERAL PORTS
SEITLICHANSCHLÜSSE

HP A4B

S N



| | |
|--|--|
| ROTAZIONE DIRECTION DREHRICHTUNG | DESTRA RIGHT RECHTS |
|--|--|

| | |
|--|--|
| ROTAZIONE DIRECTION DREHRICHTUNG | SINISTRA LEFT LINKS |
|--|--|

S Aspirazione
Feeding pump inlet
Ansaugöffnung

P Mandata
Output
Ausgang

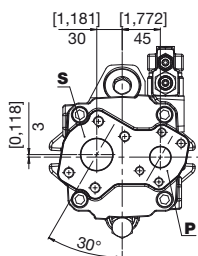
L1 Drenaggi
Drain
L2 Leckölanschluss

LS(X) Pilotaggio
Pilot
Steuerdruck

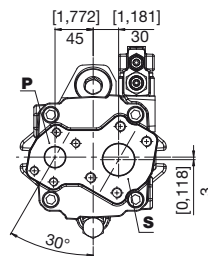
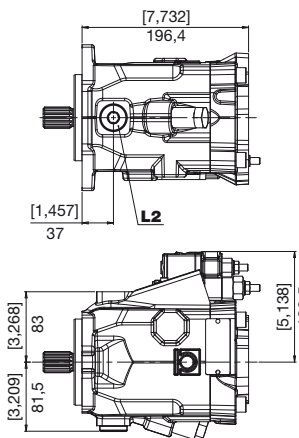
BOCCHIE POSTERIORI
REAR PORTS
HINTENANSCHLÜSSE

HP A4B

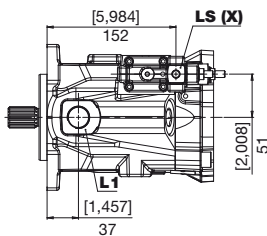
R T



| | |
|--|--|
| ROTAZIONE DIRECTION DREHRICHTUNG | DESTRA RIGHT RECHTS |
|--|--|



| | |
|--|--|
| ROTAZIONE DIRECTION DREHRICHTUNG | SINISTRA LEFT LINKS |
|--|--|



S Aspirazione
Feeding pump inlet
Ansaugöffnung

P Mandata
Output
Ausgang

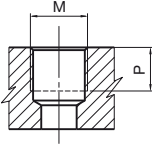
L1 Drenaggi
Drain
L2 Leckölanschluss

LS(X) Pilotaggio
Pilot
Steuerdruck

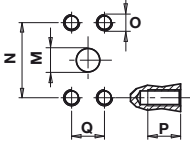


**BOCCHIE
PORTS
ANSCHLÜSSE**

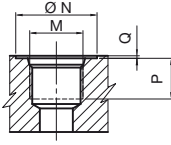
HP A4B



| TIPO TYPE TYP | M | | P | |
|---------------------|-------------------------|----|----|------|
| | mm | in | mm | in |
| G1 | Port ISO 1179-1 - G 1/8 | | 8 | 0,31 |
| G6 | Port ISO 1179-1 - G 3/4 | | 19 | 0,75 |



| TIPO TYPE TYP | M | | N | | P | | Q | | O | |
|---------------------|----|-----|------|------|----|------|------|------|-----|----|
| | mm | in | mm | in | mm | in | mm | in | | Nm |
| N7 | 25 | 1 | 52,4 | 2,06 | 18 | 0,71 | 26,2 | 1,03 | M10 | 38 |
| N9 | 38 | 1,5 | 69,9 | 2,75 | 20 | 0,79 | 35,7 | 1,41 | M12 | 70 |



| TIPO TYPE TYP | DIMENSIONE SIZE GROSSE | N | | P | | Q | | M | |
|---------------------|------------------------------|----|------|----|------|-----|------|----------------------------|----|
| | | mm | in | mm | in | mm | in | | Nm |
| U2 | 1/4" | 20 | 0,79 | 12 | 0,47 | 0,3 | 0,01 | Port ISO 11926-1-7/16-20 | 17 |
| U6 | 3/4" | 41 | 1,61 | 20 | 0,79 | 0,3 | 0,01 | Port ISO 11926-1-1-1/16-12 | 90 |

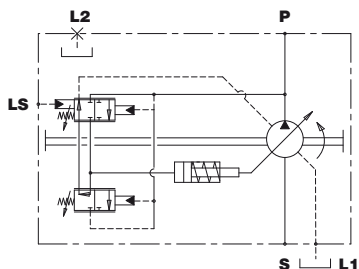
**COMBINAZIONI
COMBINATIONS
KOMBINATIONEN**

| TIPO TYPE TYP | S ASPIRAZIONE INLET SAUGSEITE | P MANDATA OUTLET AUSGANG | L1 - L2 DRENAGGIO DRAIN LECKÖLANSCHLUSS | LS(X) PILOTAGGIO PILOT STEUERDRUCK |
|---------------------|--|-----------------------------------|--|---|
| S | N9 | N7 | G6 | G1 |
| N | N9 | N7 | U6 | U2 |
| R | N9 | N7 | G6 | G1 |
| T | N9 | N7 | U6 | U2 |

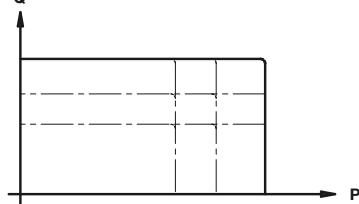
L REGOLATORE DI PRESSIONE/PORTATA
PRESSURE/FLOW RATE REGULATOR
DRUCK-UND FORDERSTROM STROMPEGLER

REGOLATORE DI PORTATA
FLOW RATE REGULATOR
FORDERSTROM STROMPEGLER

REGOLATORE DI PRESSIONE
PRESSURE RATE REGULATOR
DRUCK STROMPEGLER



PORTATA
FLOWRATE
FORDERSTROM
Q



P PRESSIONE DI ESERCIZIO
WORKING PRESSURE
BETRIEBSDRUCK

| PRESSIONE DI ESERCIZIO WORKING PRESSURE BETRIEBSDRUCK | | DIFFERENZIALE DI PRESSIONE Δp PRESSURE DIFFERENTIAL Δp DIFFERENZDRUCKANZEIGER Δp | | |
|---|------|--|------------------|------------------|
| bar | psi | 14 bar - 203 psi | 21 bar - 305 psi | 25 bar - 363 psi |
| 180 | 2610 | A | B | C |
| 210 | 3045 | E | F | G |
| 250 | 3625 | I | L | M |
| 280 | 4060 | O | P | Q |
| 320 | 4640 | S | T | U |
| 350 | 5075 | Z | X | Y |

È necessario prevedere una valvola di massima pressione esterna tarata ad un valore superiore del 10% della taratura del regolatore di pressione della pompa.

An external relief valve set at 10% above the pump pressure regulator must always be provided.

Es muss ein externes Druckbegrenzungsventil vorgesehen werden, dessen Einstellungswert mehr als 10% über dem des Druckreglers der Pumpe liegen muss.

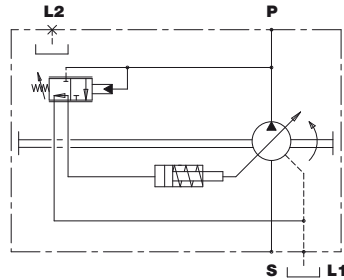


**REGOLAZIONI
CONTROL SYSTEMS
REGLEREINSTELLUNG**

HP A4B

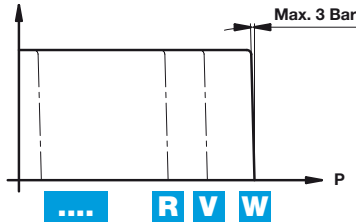
P **REGOLATORE DI PRESSIONE**
PRESSURE RATE REGULATOR
DRUCK STROMPEGLER

REGOLATORE DI PRESSIONE
PRESSURE RATE REGULATOR
DRUCK STROMPEGLER



CURVA CARATTERISTICA DELLA POMPA CON REGOLATORE DI PRESSIONE
CHARACTERISTIC CURVE OF THE PUMP WITH PRESSURE REGULATOR
KENNLINIE DER PUMPE MIT DRUCKREGLER

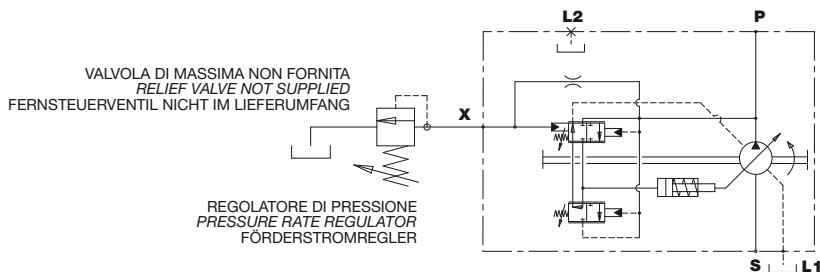
PORTATA
FLOWRATE
FORDERSTROM
Q max



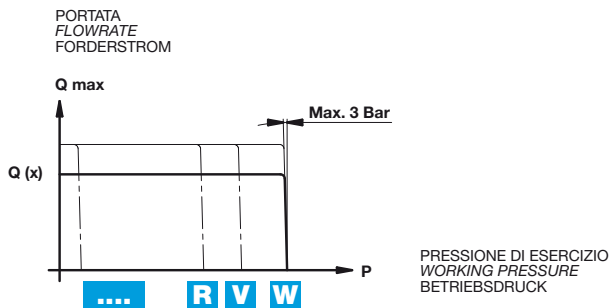
PRESSIONE DI ESERCIZIO
WORKING PRESSURE
BETRIEBSDRUCK

| CODICE CODE BEST.- NR. | PRESSIONE DI ESERCIZIO WORKING PRESSURE BETRIEBSDRUCK | |
|------------------------------|---|------|
| | bar | psi |
| D | 180 | 2610 |
| H | 210 | 3045 |
| N | 250 | 3625 |
| R | 280 | 4060 |
| V | 320 | 4640 |
| W | 350 | 5075 |

R REGOLATORE DI PRESSIONE A CONTROLLO REMOTO
PRESSURE/FLOW RATE REGULATOR REMOTE CONTROLLED
DRUCK-UND FORDERSTROM STROMPEGLER FERNBEDIENUNG



CURVA CARATTERISTICA DELLA POMPA CON REGOLATORE DI PRESSIONE
CHARACTERISTIC CURVE OF THE PUMP WITH PRESSURE REGULATOR
KENNLINIE DER PUMPE MIT DRUCKREGLER



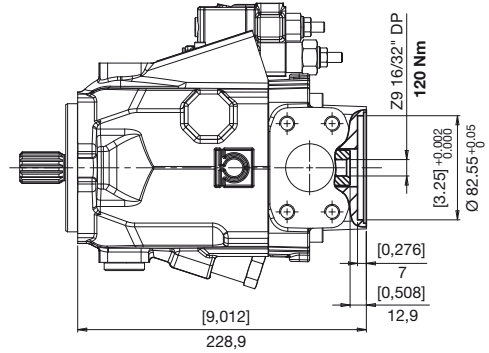
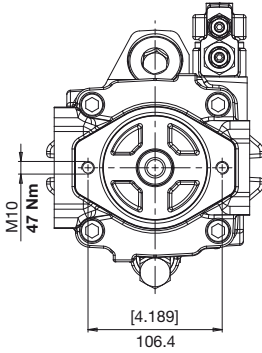
DIFFERENZIALE DI PRESSIONE 21 bar PRESSURE DIFFERENTIAL 21 bar DIFFERENZDRUCK 21 bar

| CODICE CODE BEST.- NR. | PRESSIONE DI ESERCIZIO WORKING PRESSURE BETRIEBSDRUCK | |
|------------------------------|---|------|
| | bar | psi |
| D | 180 | 2610 |
| H | 210 | 3045 |
| N | 250 | 3625 |
| R | 280 | 4060 |
| V | 320 | 4640 |
| W | 350 | 5075 |

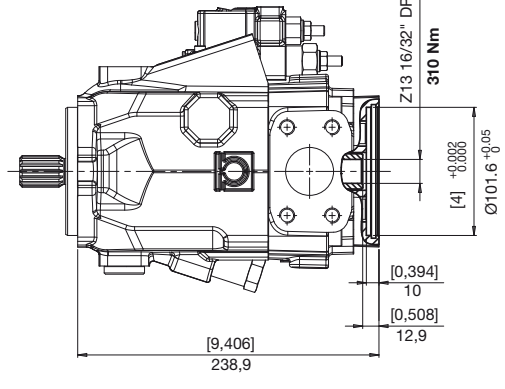
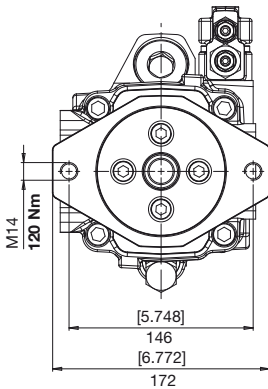
PREDISPOSIZIONI
VERSION
BAUART

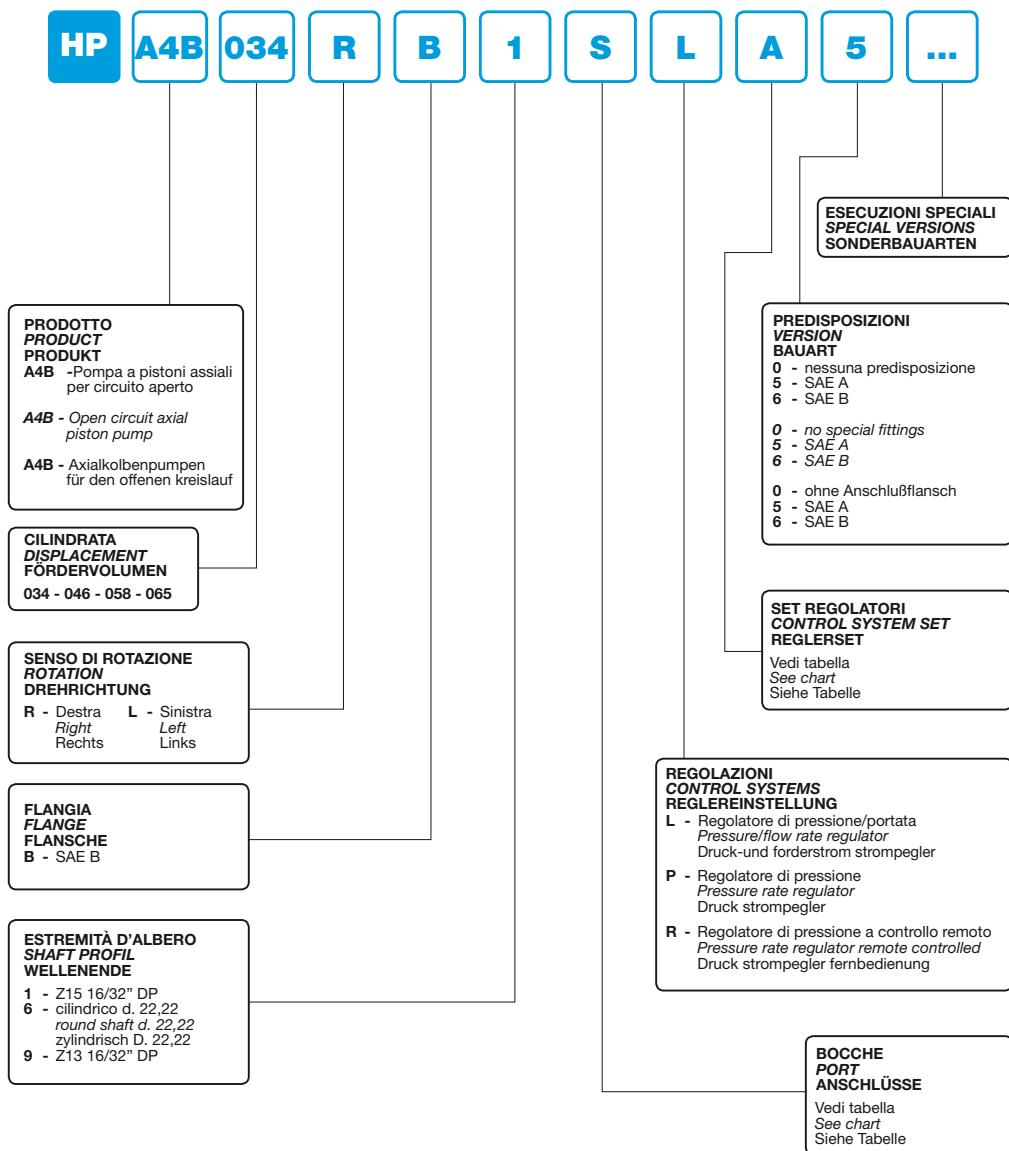
HP A4B

5 SAE A
 SAE A
 SAE A



6 SAE B
 SAE B
 SAE B



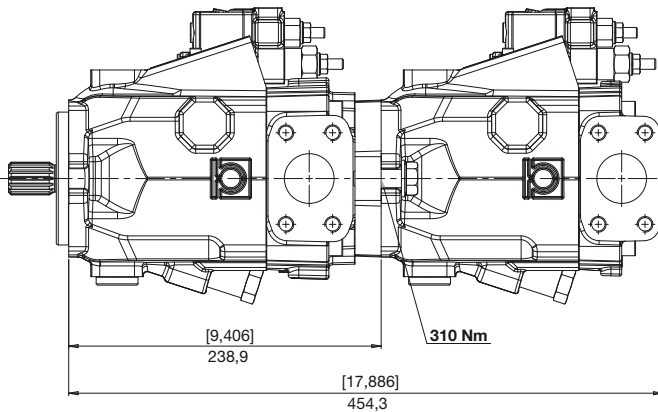
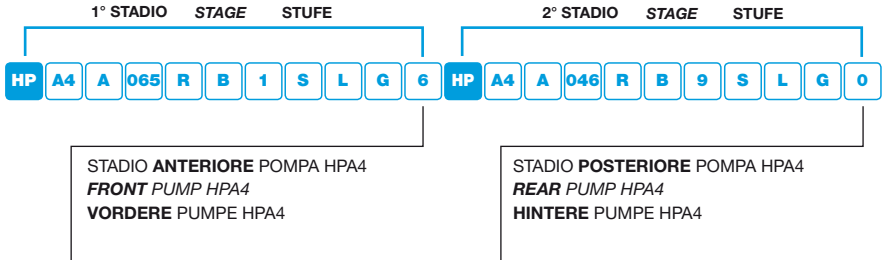




Il codice di ordinazione di una pompa multipla si ottiene sommando, come mostrato in esempio, i codici delle singole pompe (stadi) ricavati seguendo le regole di ordinazione delle pompe singole.

You build the ordering code of a multiple pump by summing the order code of the individual pumps, see our example.

Der Bestellschlüssel einer Mehrfachpumpe ergibt sich durch Summieren der Einzel-Bestellschlüssel, siehe Beispiel.



HPA4B+HPG2

VERSIONE INTEGRATA INTEGRATED VERSION PUMPENKOMBINATION

Il codice di ordinazione di una versione integrata si ottiene sommando, come mostrato in esempio, i codici delle singole pompe (stadi) ricavati seguendo le regole di ordinazione delle pompe relative.

You build the ordering code of an integrated version by summing the order code of the individual pumps, see our example.

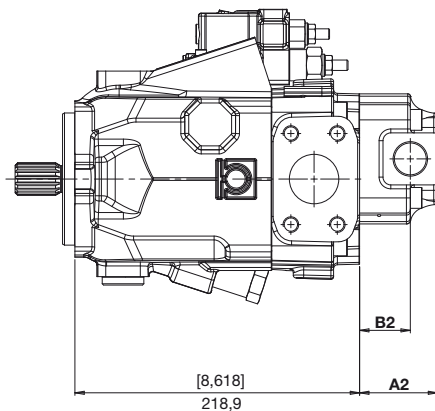
Der Bestellschlüssel einer Mehrfachpumpe ergibt sich durch Summieren der Einzel-Bestellschlüssel, siehe Beispiel.



PREDISPOSIZIONE STADIO INGRANAGGI
IN GHISA HPG2
FITTING FOR CAST IRON GEAR PUMP HPG2

DURCHTRIEB FÜR GUSSZAHNRADPUMPE
HPG2

STADIO POSTERIORE POMPA HPG
REAR PUMP HPG
HINTERE PUMPE HPG



| TIPO TYPE TYP | A2 | | B2 | |
|---------------------|------|------|------|------|
| | mm | in | mm | in |
| 05 | 48,3 | 1,90 | 27,3 | 1,07 |
| 06 | 51,0 | 2,01 | 30,0 | 1,18 |
| 08 | 55,5 | 2,19 | 34,5 | 1,36 |
| 11 | 60,0 | 2,36 | 39,0 | 1,54 |
| 14 | 69,0 | 2,72 | 37,0 | 1,46 |
| 17 | 73,5 | 2,89 | 41,5 | 1,63 |
| 20 | 78,0 | 3,07 | 46,0 | 1,81 |
| 26 | 87,5 | 3,44 | 57,0 | 2,24 |
| 31 | 96,0 | 3,78 | 65,5 | 2,58 |