



**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**

HM A1A

398SOP0093A00

HM A1A

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 HM A1A 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 consentite dai moderni motori diesel, garantendo una elevata affidabilità per pressioni di funzionamento fino a 250 bar continui (315 bar di picco). I controlli permettono un funzionamento con regolazione load sensing o a pressione costante.

Le pompe possono essere composte in versione tandem.

Axial piston pumps series HM A1A have been designed to operate 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 250 bar and until 315 bar for peak pressure. Control types allow a Load-sensing or a constant pressure control over the pump.

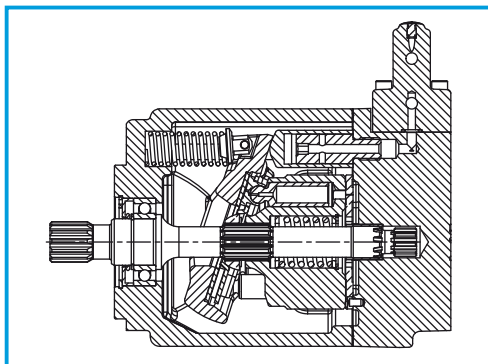
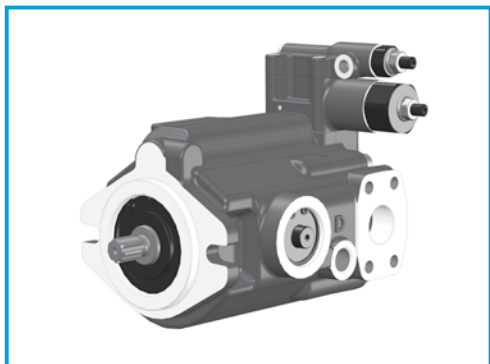
It is possible to couple tandem versions.

Die Axialkolbenpumpen der Serie HM A1A wurden für den Betrieb im offenen Kreislauf konzipiert.

Die lieferbaren unterschiedlichen Reglerbauarten 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 moderneren Antriebsaggregaten gefordert.

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

Für beide Pumpenfamilien können unter Anwendung von Anbauflansche Tandemversion zusammgebaut werden.



DATI TECNICI TECHNICAL DATA TECHNISCHE MERKMALE

GRUPPO GROUP BAUREIHE	CILINDRATA TEORICA NOMINAL DISPLACEMENT FORDERVOLUMEN (TM)		CONTINUA CONTINUOUS DAUER		PRESSIONE PRESSURE DRUCK		PICCO PEAK SPITZEN		VELOCITÀ DI ROTAZIONE SPEED DREHZAHN		MASSA WEIGHT GEWICHT	
	cm ³	in ³	bar	psi	bar	psi	bar	psi	min ⁻¹	min ⁻¹	kg	lbs
HM A1A	11	0,67	250	3625	280	4060	315	4568	3100	500	10	22
	13	0,79										
	15	0,91										
	17	0,98										
	19	1,04										
21	1,28											

PRESSIONE CONTINUA: pressione media del normale range di pressioni di funzionamento
PRESSIONE INTERMITTENTE: pressione che può essere mantenuta per periodi brevi (circa il 10% del ciclo di lavoro)

PRESSIONE DI PICCO: pressione massima permessa regolata dalle valvole di max. (max. 1-2% del ciclo di lavoro)

CONTINUOUS PRESSURE: average pressure of the normal operating pressure range

INTERMITTENT PRESSURE: pressure that can be maintained for short periods (for about 10% of the work cycle)

PEAK PRESSURE: maximum allowable pressure regulated by maximum relief valves (max 1-2% of the work cycle)

KONTINUIERLICHER DRUCK: durchschnittlicher Druck der normalen Betriebsdruckreihe

INTERMITTIERENDER DRUCK: Druck, der für kurze Zeitabschnitte beibehalten werden kann (etwa 10% des Betriebszyklus)

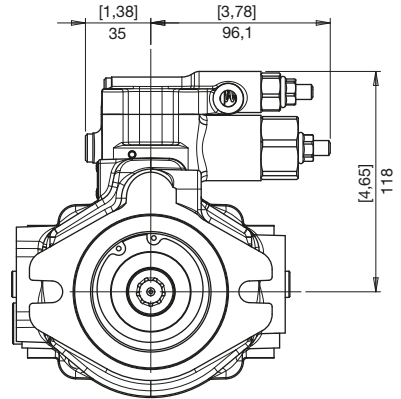
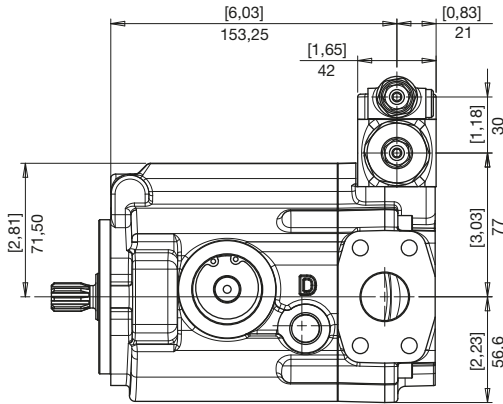
SPITZENDRUCK: zugelassener Höchstdruck, von den Höchstdruckventilen geregelt (max. 1-2% des Betriebszyklus)



**DIMENSIONI
SIZE
ABMESSUNGEN**

HM A1A

R

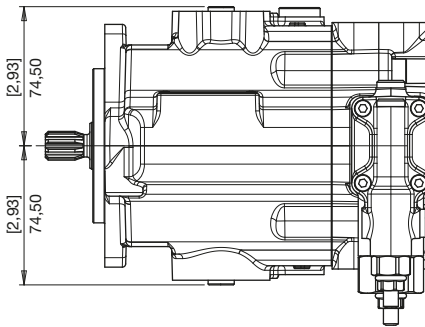


R



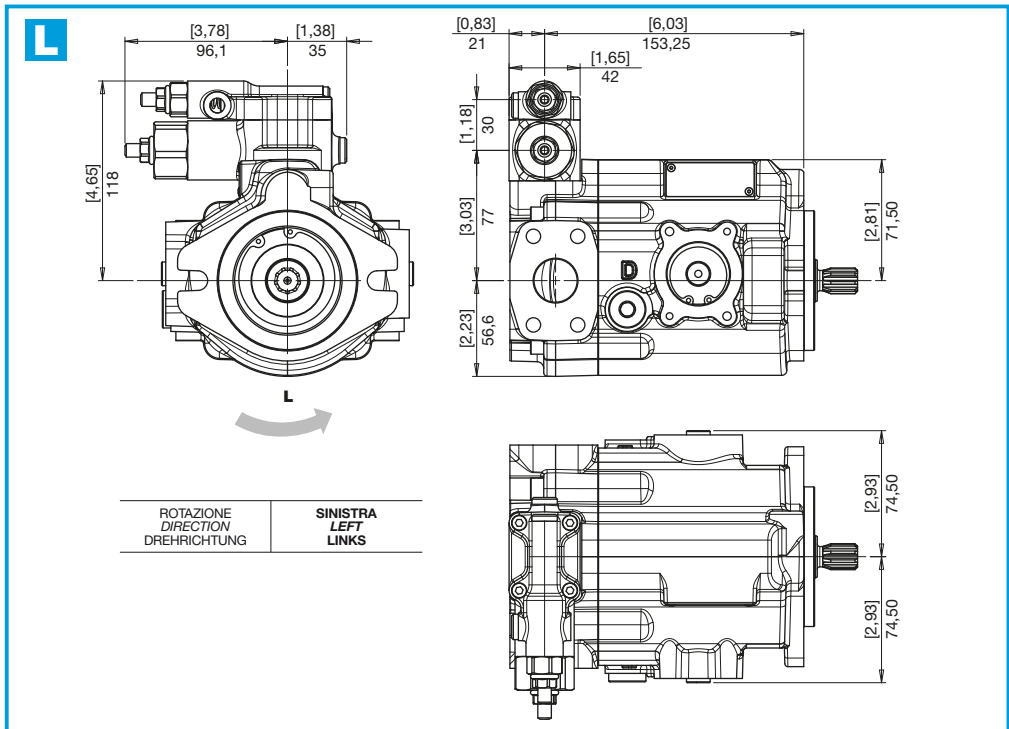
ROTAZIONE
DIRECTION
DREHRICHTUNG

DESTRA
RIGHT
RECHTS

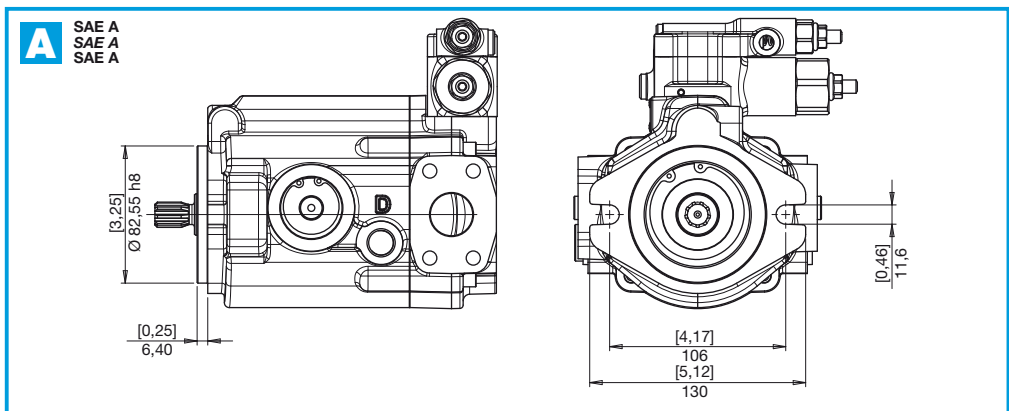


**DIMENSIONI
SIZE
ABMESSUNGEN**

HM A1A



**FLANGE
FLANGES
FLANSCH**





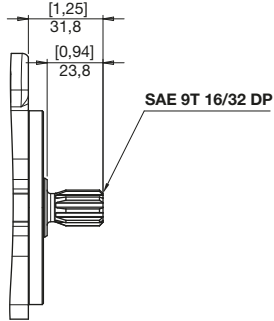
ESTREMITÀ ALBERI
SPLINE SHAFTS
WELLENPROFILE

HM A1A

V

COPPIA MAX
MAX TORQUE
MAX DREHMOMENT

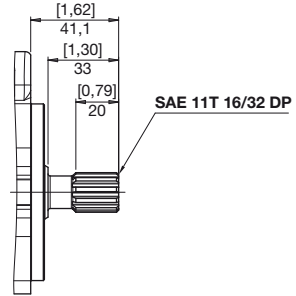
120 N•m



X

COPPIA MAX
MAX TORQUE
MAX DREHMOMENT

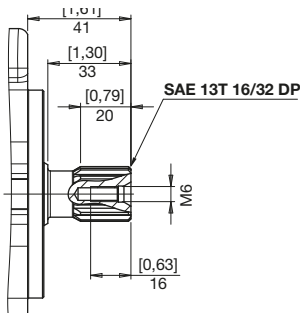
160 N•m



9

COPPIA MAX
MAX TORQUE
MAX DREHMOMENT

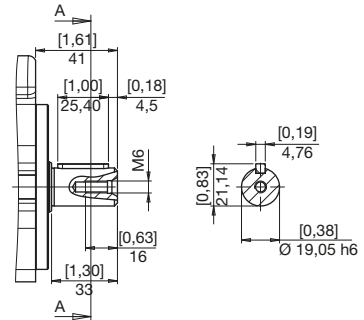
220 N•m



E

COPPIA MAX
MAX TORQUE
MAX DREHMOMENT

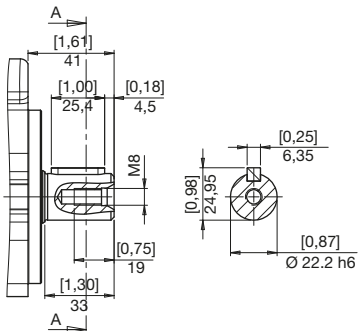
190 N•m



J

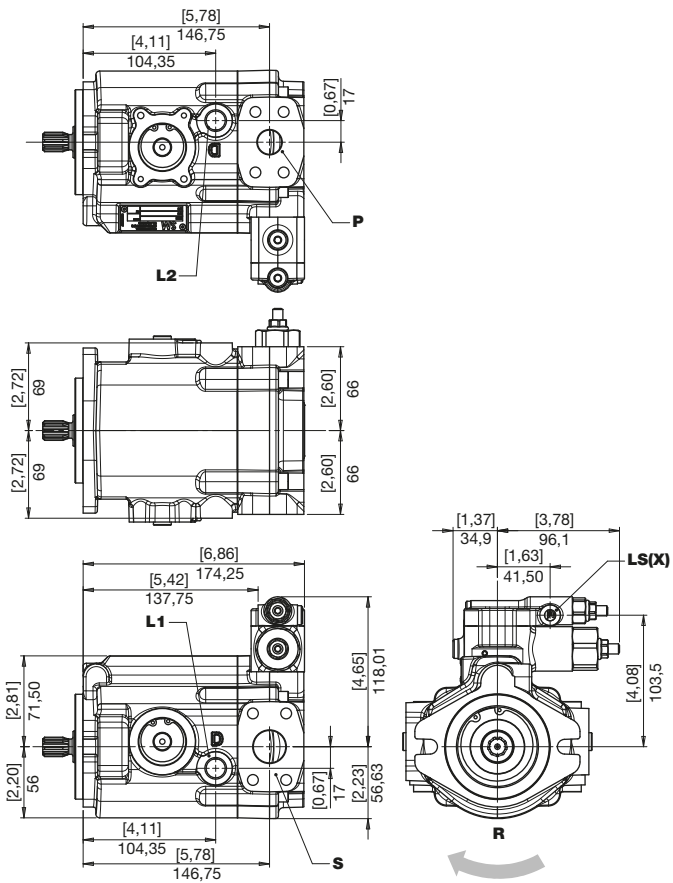
COPPIA MAX
MAX TORQUE
MAX DREHMOMENT

210 N•m



BOCCHIE VERSIONE DESTRA
RIGHT VERSION PORTS
ANSCHLÜSSE RECHTS VERSION

HM A1A



ROTAZIONE DIRECTION DREHRICHTUNG	DESTRA RIGHT RECHTS
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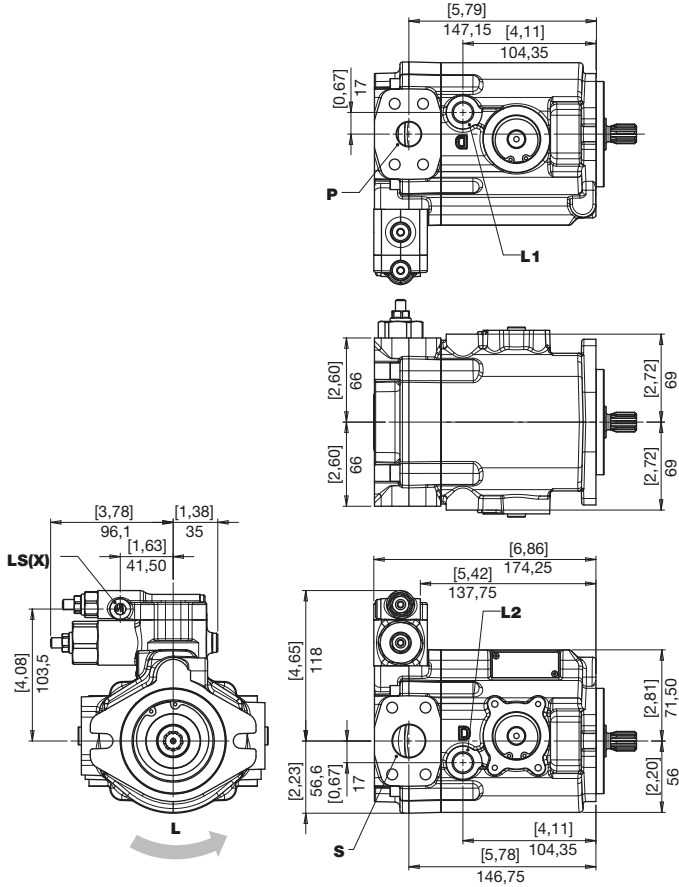
S Aspirazione Feeding pump inlet Ansaugöffnung	P Mandata Output Ausgang
L1 Drenaggi Drain	LS(X) Pilotaggio Pilot Steuerdruck
L2 Leckölanschluss	



BOCCHIE VERSIONE SINISTRA
LEFT VERSION PORTS
ANSCHLÜSSE LINKE VERSION

HM A1A

G U

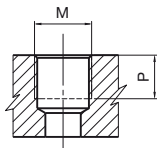


ROTAZIONE DIRECTION DREHRICHTUNG	SINISTRA LEFT LINKS
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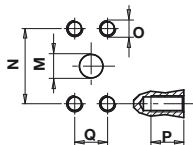
S Aspirazione Feeding pump inlet Ansaugöffnung	P Mandata Output Ausgang
L1 Drenaggi Drain Leckölanschluss	LS(X) Pilotaggio Pilot Steuerdruck

**BOCCHIE
PORTS
ANSCHLÜSSE**

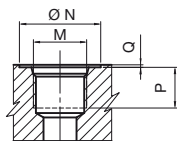
HM A1A



TIPO TYPE TYP	M	Nm	mm	P	in
G1	1/8" GAS BSPP	8	8		0,31
G3	3/8" GAS BSPP	40	12		0,47



TIPO TYPE TYP	M		N		P		Q		O	
	mm	in	mm	in	mm	in	mm	in		Nm
N6	19	0,75	50,8	2	20	0,79	23,80	0,94	M10	38
N7	25	1	57,15	2,25	20	0,79	27,76	1,09	M12	70



TIPO TYPE TYP	DIMENSIONE SIZE GRÖSSE	N		P		Q		M	
		mm	in	mm	in	mm	in		Nm
U2	1/4"	20	0,79	12	0,47	0,3	0,01	7/16-20 UNF	17
U4	1/2"	30	1,18	15	0,59	0,3	0,01	3/4-16 UNF	47

**COMBINAZIONI
COMBINATIONS
KOMBINATIONEN**

TIPO TYPE TYP	S ASPIRAZIONE INLET SAUGSEITE	P MANDATA OUTLET AUSGANG	L1 - L2 DRENAGGIO DRAIN LECKÖLANSCHLUSS	LS(X) PILOTAGGIO PILOT STEUERDRUCK
G	N7	N6	G3	G1
U	N7	N6	U4	U2



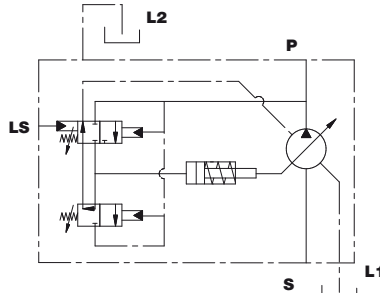
**REGOLAZIONI
CONTROL SYSTEMS
REGLEREINSTELLUNG**

HM A1A

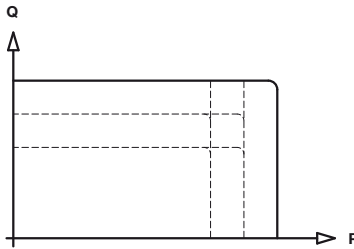
L **REGOLATORE DI PRESSIONE/PORTATA
PRESSURE/FLOW RATE REGULATOR
DRUCK-UND FORDERSTROM STROMPEGLER**

REGOLATORE DI PORTATA
FLOW RATE REGULATOR
FORDERSTROM STROMPEGLER

REGOLATORE DI PRESSIONE
PRESSURE RATE REGULATOR
DRUCK STROMPEGLER



PORTATA
FLOWRATE
FORDERSTROM



PRESSIONE DI ESERCIZIO
WORKING PRESSURE
BETRIEBSDRUCK

**SETTAGGIO REGOLATORI
CONTROL SYSTEM SET
VORSCHRIFTEN EINSTELLUNG**

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

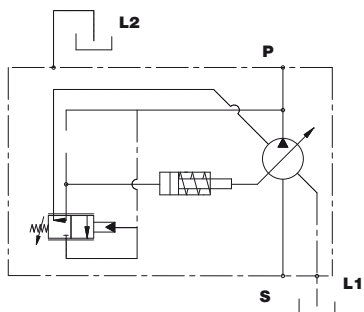
É necessario prevedere una valvola di massima pressione esterna tarata ad un valore superiore del 10% della taratura del regolatore di pressione della pompa.

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

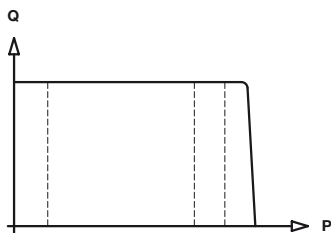
Es muss ein externes Druckbegrenzungsventil vorgesehen werden, dessen Einstellungswert mehr als 10% über dem des Druckreglers der Pumpe liegen muss.

P REGOLATORE DI PRESSIONE
PRESSURE RATE REGULATOR
DRUCK STROMPEGLER

REGOLATORE DI PRESSIONE
PRESSURE RATE REGULATOR
DRUCK STROMPEGLER



PORTATA
FLOWRATE
FORDERSTROM



PRESSIONE DI ESERCIZIO
WORKING PRESSURE
BETRIEBSDRUCK

SETTAGGIO REGOLATORI
CONTROL SYSTEM SET
VORSCHRIFTEN EINSTELLUNG

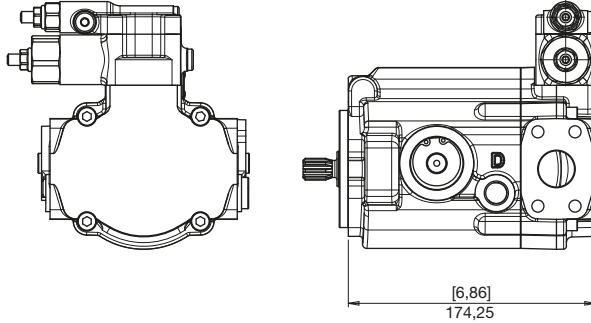
CODICE CODE BEST.- NR.	PRESSIONE DI ESERCIZIO WORKING PRESSURE BETRIEBSDRUCK	
	bar	psi
D	180	2610
H	210	3045
N	250	3625
R	280	4060



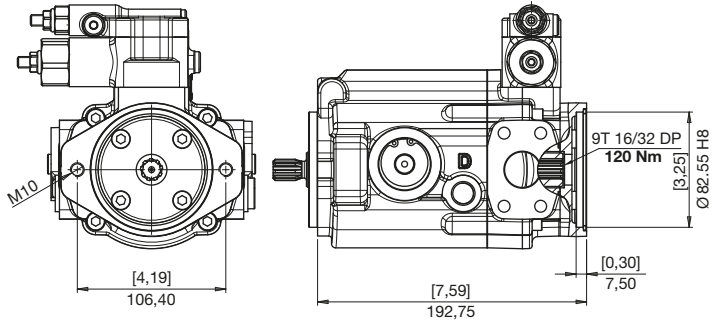
**PREDISPOSIZIONI
VERSION
BAUART**

HM A1A

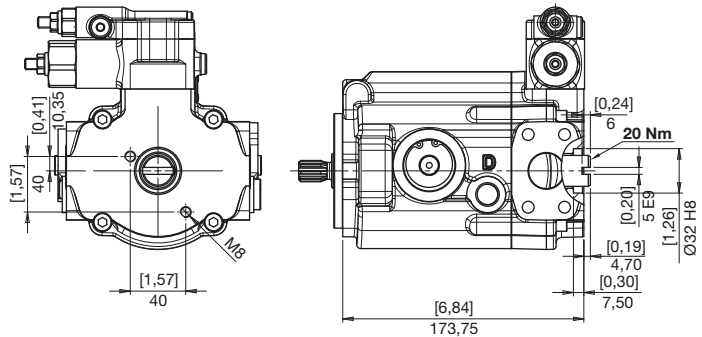
0 NESSUNA PREDISPOSIZIONE
NO SPECIAL FITTINGS
OHNE ANSCHLUßFLANSCH



5 SAE A
SAE A
SAE A



9 GR.1
GR.7
GR.1





SERIE
SERIES
SERIE

ESECUZIONI SPECIALI
SPECIAL VERSIONS
SONDERBAUARTEN

PRODOTTO
PRODUCT
PRODUKT

A1A - Pompa a pistoni assiali per circuito aperto

A1A - *Open circuit axial piston pump*

A1A - Axialkolbenpumpen für den offenen Kreislauf

PREDISPOSIZIONI
VERSION
BAUART

0 - nessuna predisposizione
5 - SAE A
9 - Gruppo 1

0 - *no special fittings*
5 - *SAE A*
9 - *Group 1*

0 - ohne Anschlußflansch
5 - SAE A
9 - Baugröße 1

CILINDRATA
DISPLACEMENT
FÖRDERVOLUMEN

11 - 13 - 15 - 17 - 19 - 21

SETTAGGIO REGOLATORI
CONTROL SYSTEMS SETTING
VORSCHRIFTEN EINSTELLUNG

Vedi tabella pag. 9-10
See chart pag. 9-10
 Siehe Tabelle pag. 9-10

F - se a cilindrata fissa
F - with fixed displacement
F - wenn mit festem Hubraum

SENSO DI ROTAZIONE
ROTATION
DREHRICHTUNG

R - Destra **L** - Sinistra
Right *Left*
 Rechts Links

REGOLATORI
CONTROL SYSTEMS
REGLEREINSTELLUNG

L - Regolatore di pressione e portata
Pressure/flow rate regulator
 Druck-und forderstrom strompegler

P - Regolatore di pressione
Pressure rate regulator
 Druck strompegler

C - Cilindrata fissa
Fixed displacement
 Fester Hubraum

E - Regolatore con comando elettronico
Electronic pressure rate
 Regler mit elektronischer Steuerung

ESTREMITÀ D'ALBERO
SHAFT PROFIL
WELLENENDE

V - Z9 16/32" DP
X - Z11 16/32" DP
9 - Z13 16/32" DP
E - cilindrico Ø 19,05
round shaft Ø 19,05
 zylindrisch Ø 19,05
J - cilindrico Ø 22,22
round shaft Ø 22,22
 zylindrisch Ø 22,22

BOCCHIE
PORT
ANSCHLÜSSE

G - GAS
U - UNF