



## SERIES: A-HP

**TOHIO**

**PATENTED**

**INTERCHANGE:** Stucchi internal specification

### MAIN APPLICATIONS

- Rescue equipment
- Hydraulic tools
- Hydraulic jacks
- Industrial equipment

“A-HP” is the flat face coupling series designed for high pressure hydraulic applications up to 720 bar / 10,440 psi. The couplings are manufactured with high resistance carbon steel. The flat face design eliminates leakage during connecting and disconnecting. For safety, the couplings are designed not to interchange with lower pressure couplings and the automatic safety lock prevents accidental disconnection. “A-HP” series is used in applications where high operating pressure is necessary with maximum safety features.

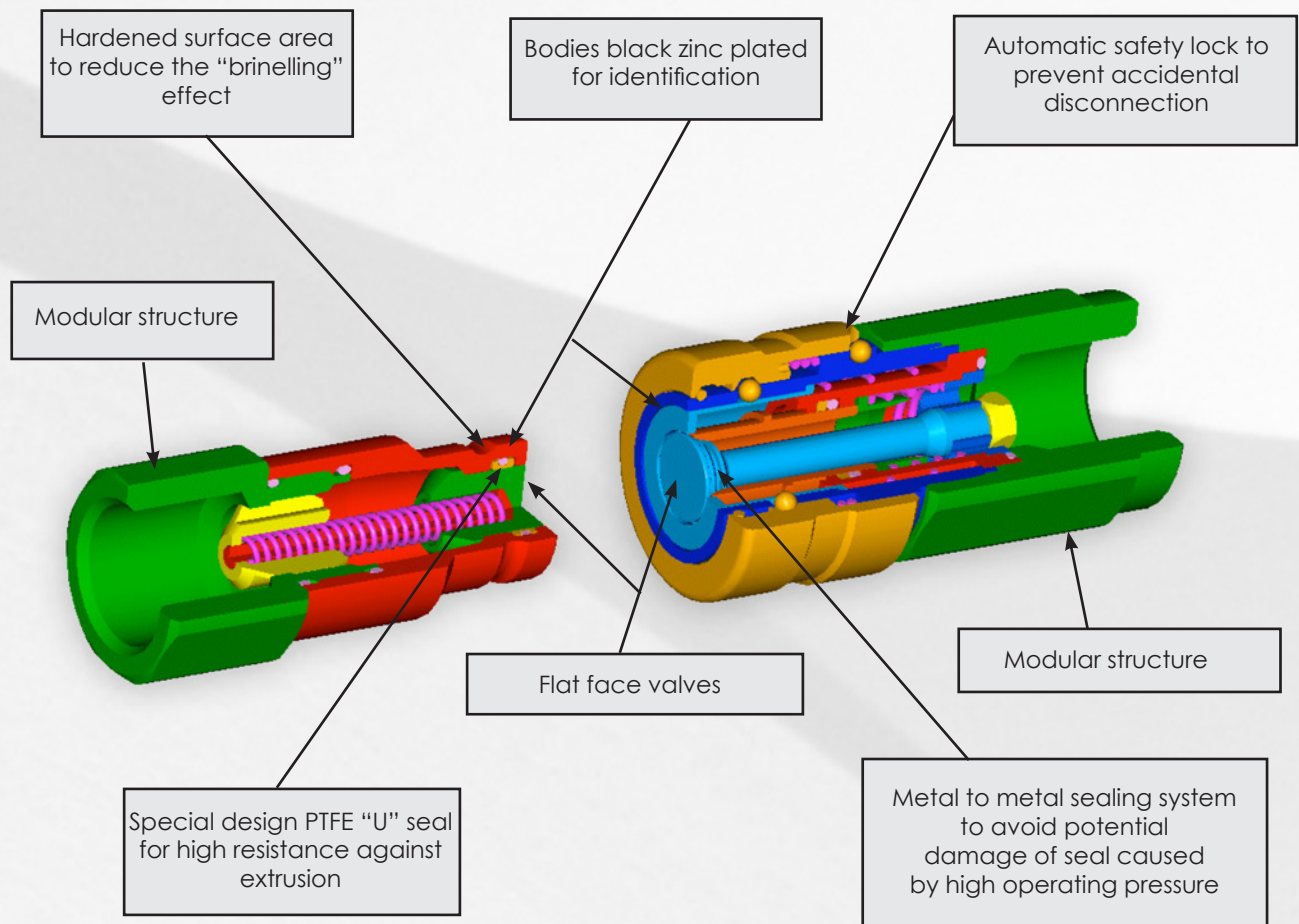


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## TECHNICAL FEATURES AND OPTIONS

- Interchangeability: Stucchi internal specification
- Valve system: Flat face
- Mechanical connection: Locking balls
- Connection system: Push to connect
- Disconnection system: Pulling back the sleeve of female
- Connection with residual pressure: Not allowed
- Disconnection with residual pressure: Not allowed
- Threads available: NPT, BSP
- Threads on request: Male NPT
- Construction material: High resistance carbon steel
- Surface treatment: CrIII zinc plated
- External springs: AISI 302
- Internal springs: C72 steel
- Locking ball material: Hard steel 100 C6
- Seals: NBR (Nitrile)
- Seals on request: Others kinds
- Anti-extrusion rings: PTFE



## BENEFITS

- Flat face is easy to clean, helping to reduce the inclusion of contamination to the hydraulic circuit.
- Minimal fluid loss during connection / disconnection, reducing fluid loss to the environment.
- Minimal air inclusion during connection / disconnection, enhancing correct function of the circuit.
- Internal design reduces pressure drop, increasing circuit efficiency.
- The automatic safety lock to prevent accidental disconnection, avoids to the operator to make two movements saving time to connect. This benefit is very important mainly for the rescue equipment.
- The modular structure allows broad range of port configurations.
- Compact slim design.
- Safe and simple to use.

## HOW TO USE

- Before to couple clean the flat mating surface of quick coupling to avoid the inclusion of dirty in the circuit.
- To couple push the male half towards the female half or vice versa until the coupler sleeve clicks.  
Upon connection the safety sleeve automatically rotates engaging the safety lock mechanism. In this safety lock position the coupling can not be disconnected until the operator aligns the sleeve in the proper position (safety locking ball aligned with groove in the coupler sleeve).
- To uncouple turn the external sleeve until the sleeve lock groove is aligned with the safety locking ball and pull back the sleeve.

## WARNING!

- Do not use the female coupling disconnected with impulse pressure at high frequency.
- Do not couple-uncouple with flow and/or pressure in the circuit.
- Do not couple-uncouple when the temperature inside of the circuit is higher than 80 °C (176 °F).

## PERFORMANCE

Description	Size	ISO Size	Rated flow		Max. flow suggested		Connect force		Disconnect force		Spillage*
			l/min	GPM	l/min	GPM	N	lbf	N	lbf	
A4HP	1/8	-	3	0,80	6	1,59	95	21,38	40	9,00	0,040
A5HP	1/4	-	12	3,18	24	6,36	125	28,13	45	10,13	0,020
A9HP	3/8	-	23	6,10	46	12,19	205	46,13	50	11,25	0,020

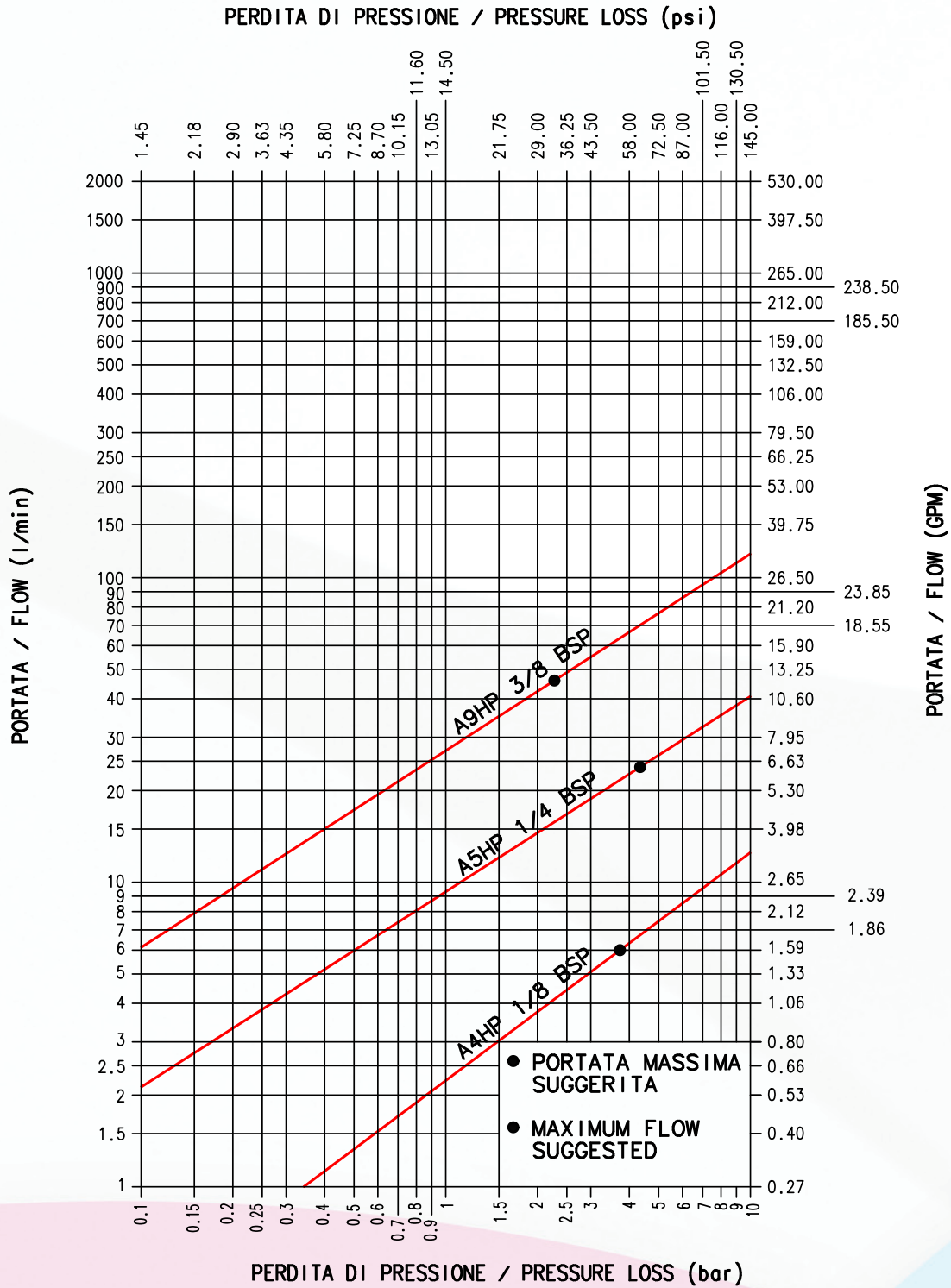
Description	Max. operating pressure						Burst pressure					
	Coupled		Male		Female		Coupled		Male		Female	
	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi	MPa	psi
A4HP	72	10440	72	10440	72	10440	160	23200	160	23200	160	23200
A5HP	72	10440	72	10440	50	7250	200	29000	200	29000	150	21750
A9HP	72	10440	72	10440	42	6090	180	26100	200	29000	125	18125

\* Spillage is an indicative value of the fluid loss per couple-uncouple cycle.

- Temperature range:
  - Standard seals NBR (Nitrile): from -20 °C to +100 °C ( from -4 °F to +212 °F).
- Tests:
  - The couplings have been tested at max. operating pressure for 100'000 impulses in according with ISO 7241-2. A4HP has been tested for 10'000 impulses.

## PRESSURE DROP

TESTS ESEGUITI IN CONFORMITA' A ISO 7241-2  
 TESTS IN ACCORDANCE WITH ISO 7241-2

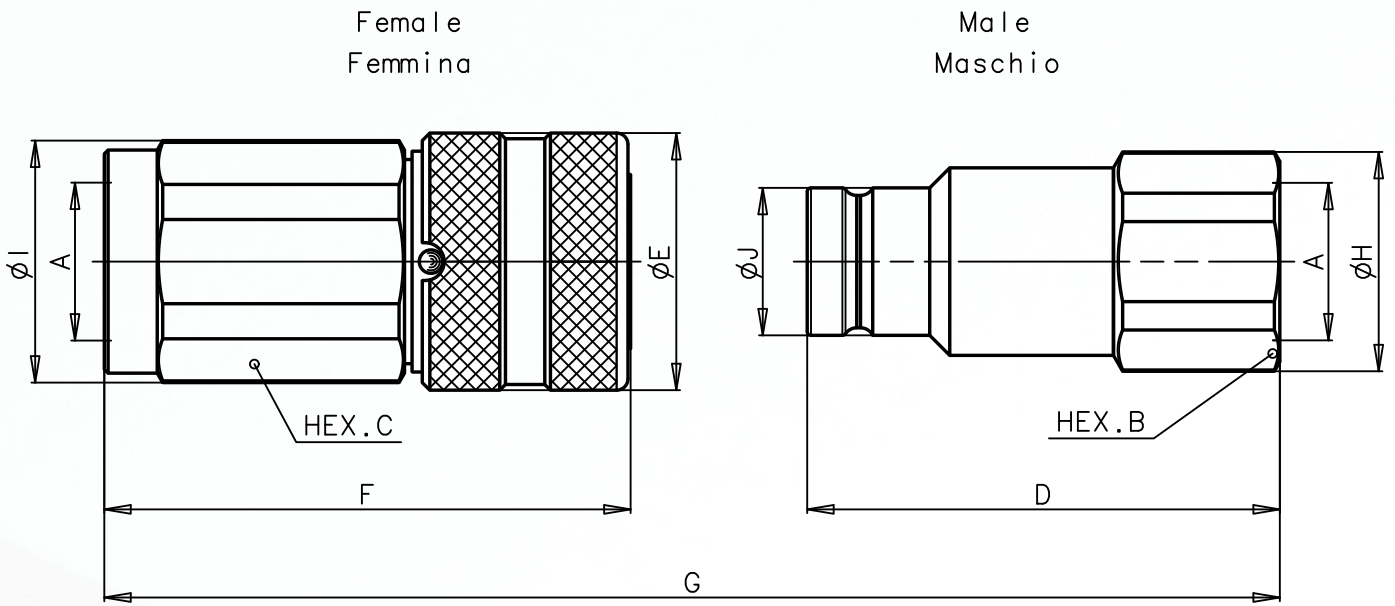


FLUIDO: OLIO ISO VG32  
 TEMPERATURA: 40°C  
 VISCOSITA': 28.8-35.2 mm<sup>2</sup>/s

FLUID: OIL ISO VG32  
 TEMPERATURE: 40°C  
 VISCOSITY: 28.8-35.2 mm<sup>2</sup>/s

# SERIES: A-HP

## OVERALL DIMENSIONS



### FEMALE NPT THREAD (ANSI B.1.20.3)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
A4HP 1/8 NPT	1/8	mm Inch	17,0 0,67	17,0 0,67	36,2 1,43	22,0 0,87	44,0 1,73	72,3 2,85	18,5 0,73	21,8 0,86	12,0 0,47	Kg lb	0,041 0,09	0,090 0,20
A5HP 1/4 NPT	1/4	mm Inch	22,0 0,87	22,0 0,87	47,9 1,89	29,0 1,14	58,0 2,28	94,9 3,74	23,8 0,94	29,0 1,14	16,5 0,65	Kg lb	0,090 0,20	0,205 0,45
A5HP 3/8 NPT	3/8	mm Inch	24,0 0,94	24,0 0,94	54,9 2,16	29,0 1,14	60,0 2,36	103,9 4,09	26,0 1,02	29,0 1,14	16,5 0,65	Kg lb	0,107 0,24	0,209 0,46
A9HP 3/8 NPT	3/8	mm Inch	27,0 1,06	30,0 1,18	60,0 2,36	34,0 1,34	64,6 2,54	108,8 4,28	29,0 1,14	32,0 1,26	19,5 0,77	Kg lb	0,153 0,34	0,322 0,71
A9HP 1/2 NPT	1/2	mm Inch	27,0 1,06	30,0 1,18	62,5 2,46	34,0 1,34	69,6 2,74	116,3 4,58	29,0 1,14	32,0 1,26	19,5 0,77	Kg lb	0,144 0,32	0,308 0,68

### FEMALE BSPB THREAD (DIN 3852) (Not preferred for high pressure)

Description	A	Unit	B	C	D	E	F	G	H	I	J	Unit	Weight	
													Male	Female
A4HP 1/8 BSP	1/8	mm Inch	17,0 0,67	17,0 0,67	36,2 1,43	22,0 0,87	44,0 1,73	72,3 2,85	18,5 0,73	21,8 0,86	12,0 0,47	Kg lb	0,041 0,09	0,093 0,21
A5HP 1/4 BSP	1/4	mm Inch	22,0 0,87	22,0 0,87	47,9 1,89	29,0 1,14	58,0 2,28	94,9 3,74	23,8 0,94	29,0 1,14	16,5 0,65	Kg lb	0,087 0,19	0,204 0,45
A5HP 3/8 BSP	3/8	mm Inch	24,0 0,94	24,0 0,94	54,9 2,16	29,0 1,14	60,0 2,36	103,9 4,09	26,0 1,02	29,0 1,14	16,5 0,65	Kg lb	0,087 0,19	0,204 0,45
A9HP 3/8 BSP	3/8	mm Inch	27,0 1,06	30,0 1,18	60,0 2,36	34,0 1,34	64,6 2,54	108,8 4,28	29,0 1,14	32,0 1,26	19,5 0,77	Kg lb	0,151 0,33	0,298 0,66
A9HP 1/2 BSP	1/2	mm Inch	27,0 1,06	30,0 1,18	62,5 2,46	34,0 1,34	69,6 2,74	116,3 4,58	29,0 1,14	32,0 1,26	19,5 0,77	Kg lb	0,153 0,34	0,304 0,67



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