



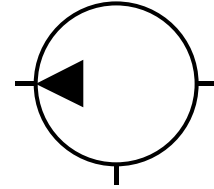
Inoxihp Plunger Pumps

SCHRUPP

Page 1

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Series **PF**
Type **Triplex - Quintuplex**



Triplex



Quintuplex

**General Characteristics**

The Inoxihp reciprocating horizontal triplex and quintuplex plunger pumps, Series PF100, 200 and 300 are designed for pumping high pressure fluids such as water, water emulsions, etc. Thanks to their highly robust and reliable construction, they are utilized in any applications that demand severe and continuous service, including:

- Steel Industry (Hot rolling mills, descaling systems)
- Metallurgical: (Forging, stamping, and extrusion)
- Manufacturing: (Rubber, wood, thermosetting)
- Metal working (Hydrostatic testers)
- Chemical and Automotive (Hydrodynamic cleaning)

Construction

The use of the latest technology, constant inspection during manufacturing and assembly and modern design concepts have provided a high quality product, simple and quick to maintain, even by non-qualified personnel. The study of fluid mechanics within the hydraulic pumping section has led to the refinement of the pump design to eliminate dangerous dead space and to optimize the function of the suction and pressure valve assemblies to provide a high degree of hydraulic performance.

The series PF pumps are composed of two sections:

Crankshaft Drive section consisting of:

- Cast housing with wide finned surfaces for better heat dissipation.
- Crankshaft laterally and centrally supported by large roller bearings.
- Internal reduction gear unit with long-life, silent running helical gears.
- Crosshead with slide jackets and thrust rods.
- Connecting rods with thin wall bearings.

The basic version of the crank drive utilizes splash lubrication. For more demanding applications, the crank drive can be supplied with:

- Splash lubrication with filter or with filter and heat ex.
- Forced oil lubrication with a water or air cooled heat exchanger. In these applications, the lube gear pump is driven directly from the crankshaft of the main pump.

Hydraulic section consisting of:

- Hydraulic head includes the suction and delivery valve assemblies. The hydraulic connections can be located on either side of the head. Steel heads are standard but stainless steel is also available.
- Pumping group consisting of the plungers, cylinder, and self adjusting seat packing to ensure long life .

Accessories

Bypass valve with electro-pneumatic control
Check valve located on delivery side
Adjustable relief or safety valve
Simplex or duplex suction filter
Pressure gauge
Pressure switch for suction or pressure side
Thermostat for crank drive
Coupling with guard
Electric Motor
Complete pumping units

Material Standards

Crankshaft
42CrMo4 forged, hardened, and tempered, nitrided (UNI EN 10083-1)

Connecting rods
GS 500/7 (UNI 4544) spheroidal graphite cast iron

Crosshead and jackets
GS 400/7 (UNI4544)

Hydraulic head
C 45 forged with protective coating (UNI EN 10083-1)

Valves
AISI 431 hardened and tempered

Valve seats
AISI 431 hardened and tempered

Valve springs
AISI 302

Plungers
AISI 304 ceramic coating –up to 350bar, tungsten carbide coating, or ceramic



Inoxihp Plunger Pumps

Identification Code

PF	190	L	35	T35	S	1
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Size	Gear Ratio	Plunger Diameter	Hydraulic Head	Hydraulic Head Material	Lubrication
150 Triplex	E	30	Triplex	S Steel	1 Splash
190 Triplex	L	35	T35 (350bar)	A AISI 304	2 Splash plus oil filtration circuit
260 Triplex	V	40	T10 (1000bar)	D AISI 431B	3 Splash plus oil filtration and heat ex.
300 Quintupl		45	Quintuplex	X AISI 316L	4 Forced lubrication with heat ex.
330 Quintupl		50	Q35 (350bar)		
		55	Q10 (1000bar)		
		60	SPE (Special)		

Selection Tables Triplex

PF150		Speed (rpm)/ Gear Reduction - Flow Q=L/min											Max absorbed power: 75 KW	
Plunger	E (1000)	L (1000)	V (1000)	E (1200)	L (1200)	V (1200)	E (1500)	L (1500)	V (1500)	E (1800)	L (1800)	V (1800)	Press max bar T35 T10	
30	44	51	59	52	61	70	66	76	88	79	91	106	350	460
35	60	69	80	72	82	96	90	104	120	108	124	145	340	-
40	79	90	105	94	108	126	118	136	158	142	162	189	260	-
45	100	114	133	120	137	159	150	172	200	180	205	239	200	-
50	123	141	164	147	169	197	183	212	246	221	253	296	160	-
55	149	171	199	178	205	238	223	257	298	268	307	-	140	-
60	177	204	236	212	244	283	264	306	-	-	-	-	115	-

PF190		Speed (rpm)/Gear Reduction – Flow Q=L/min											Max absorbed power: 120 KW	
Plunger	E (1000)	L (1000)	V (1000)	E (1200)	L (1200)	V (1200)	E (1500)	L (1500)	V (1500)	E (1800)	L (1800)	V (1800)	Press max bar T35 T10	
30	44	51	59	52	61	70	66	76	88	79	91	106	350	730
35	60	69	80	72	82	96	90	104	120	108	124	145	350	540
40	79	90	105	94	108	126	118	136	158	142	162	189	350	410
45	100	114	133	120	137	159	150	172	200	180	205	239	320	-
50	123	141	164	147	169	197	183	212	246	221	253	296	260	-
55	149	171	199	178	205	238	223	257	298	268	-	-	220	-
60	177	204	236	212	244	283	264	306	-	-	-	-	180	-

PF260		Speed rpm/Gear Box Reduction - Flow Q=LPM											Max absorbed power: 160 KW	
Plunger	E (1000)	L (1000)	V (1000)	E (1200)	L (1200)	V (1200)	E (1500)	L (1500)	V (1500)	E (1800)	L (1800)	V (1800)	Press max bar T35 T10	
30	45	52	61	54	62	73	68	78	91	81	93	109	350	990
35	62	71	83	74	85	99	93	107	124	111	127	149	350	730
40	81	93	108	97	111	129	122	140	163	145	167	195	350	555
45	103	118	137	123	141	164	154	177	206	185	212	247	350	440
50	127	146	169	152	175	203	190	219	254	228	262	305	350	355
55	153	176	205	183	211	246	230	264	307	275	-	-	315	-
60	183	210	244	219	252	293	274	315	-	-	-	-	260	-



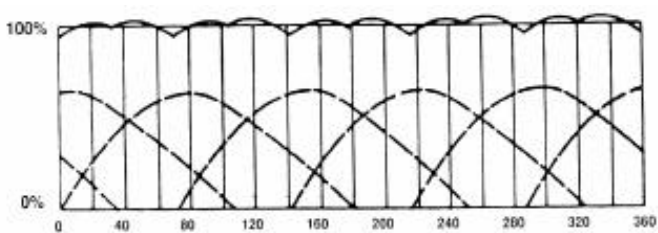
**Selection Table
 Quintuplex**

PF300		Speed rpm/Gear box reduction – Flow Q=L/min											Max absorbed power : 200 KW	
Plunger	E (1000)	L (1000)	V (1000)	E (1200)	L (1200)	V (1200)	E (1500)	L (1500)	V (1500)	E (1800)	L (1800)	V (1800)	Press max bar	
													Q35	Q10
30	74	85	98	89	102	119	111	127	148	133	153	177	350	730
35	101	116	134	121	138	161	150	173	202	182	209	241	350	540
40	131	150	174	157	181	210	197	226	263	236	272	315	350	410
45	166	190	221	199	229	266	249	287	333	299	344	399	320	-
50	205	235	273	246	283	329	308	354	411	369	425	493	260	-
55	248	285	331	298	342	398	372	428	497	446	513	-	220	-
60	296	340	395	355	407	474	444	510	-	533	-	-	180	-

PF330		Speed rpm/Gear box reduction – Flow Q=L/min											Max absorbed power : 285 KW	
Plunger	E (1000)	L (1000)	V (1000)	E (1200)	L (1200)	V (1200)	E (1500)	L (1500)	V (1500)	E (1800)	L (1800)	V (1800)	Press max bar	
													Q35	Q10
30	76	87	101	91	105	122	114	131	153	137	158	184	350	1000
35	104	119	138	125	143	166	156	179	208	187	214	248	350	740
40	136	156	181	163	187	217	203	234	272	245	281	325	350	570
45	172	197	229	206	236	275	257	296	344	310	355	412	350	450
50	212	243	283	254	292	340	318	365	424	382	437	509	350	360
55	256	294	341	307	353	410	384	442	513	461	529	-	300	-
60	305	350	407	366	420	488	458	526	-	550	-	-	250	-

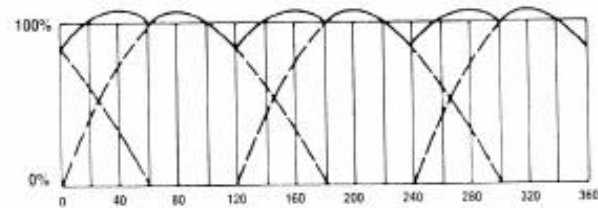
Gear reductions: E = 1 : 4.54 L = 1 : 3.95 V = 1 : 3.40

Charts are based on volumetric efficiency of 100% and mechanical efficiency of 89%



Hydraulic Flow Characteristics

Quintuplex Pump
 Pulsation + 1.9% / - 5.2%
 Total Variations 7.1%



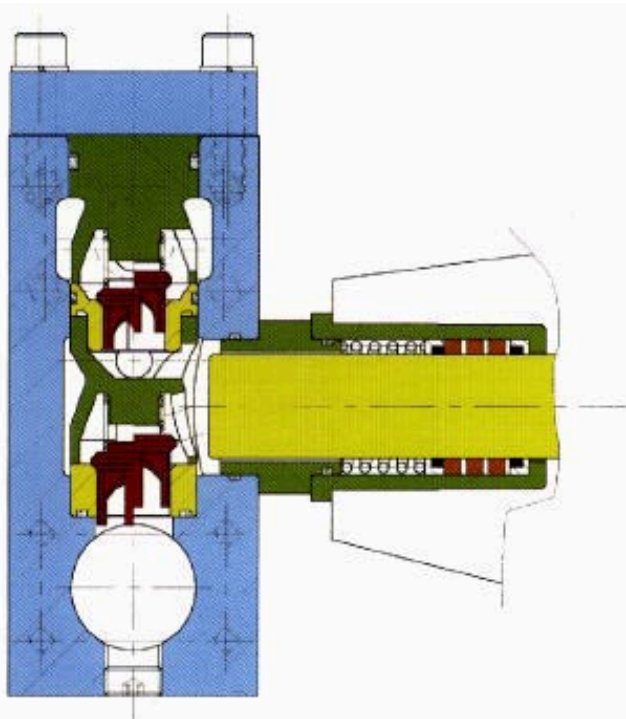
Triplex Pump
 Pulsation + 6.2 / - 16.9%
 Total Variations 23.1%



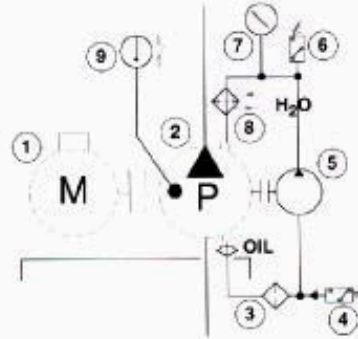
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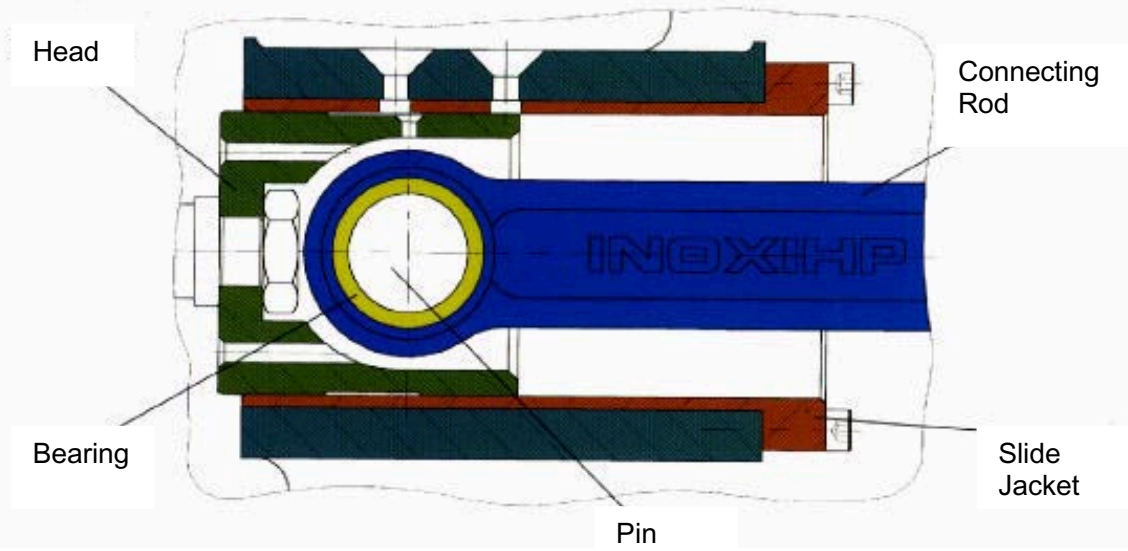
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FORCED LUBRICATION SCHEME

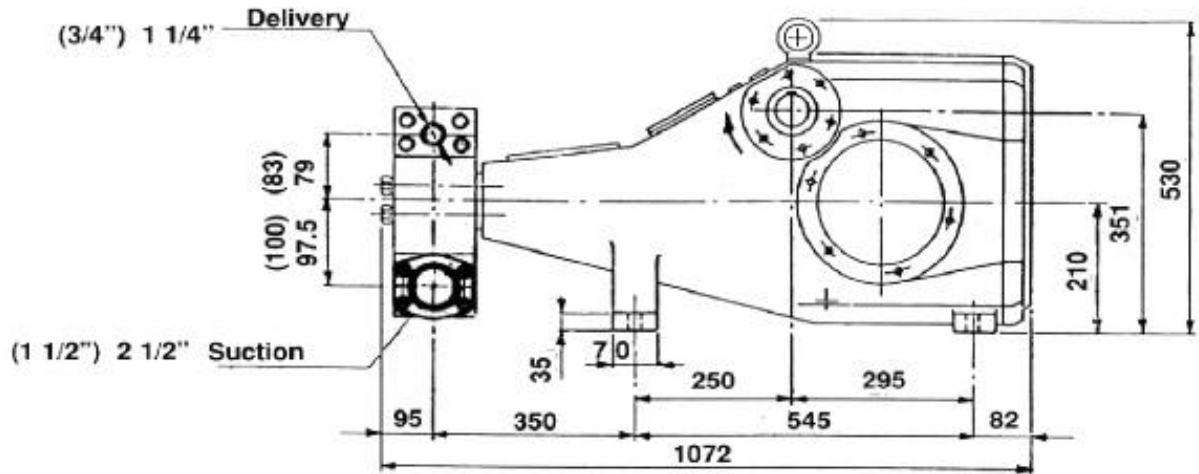


- 1. Electric Motor
- 2. Plunger pump
- 3. Oil filter
- 4. Filter limit switch
- 5. Gear pump
- 6. Pressure switch
- 7. Gauge
- 8. Heat exchanger
- 9. Thermostat

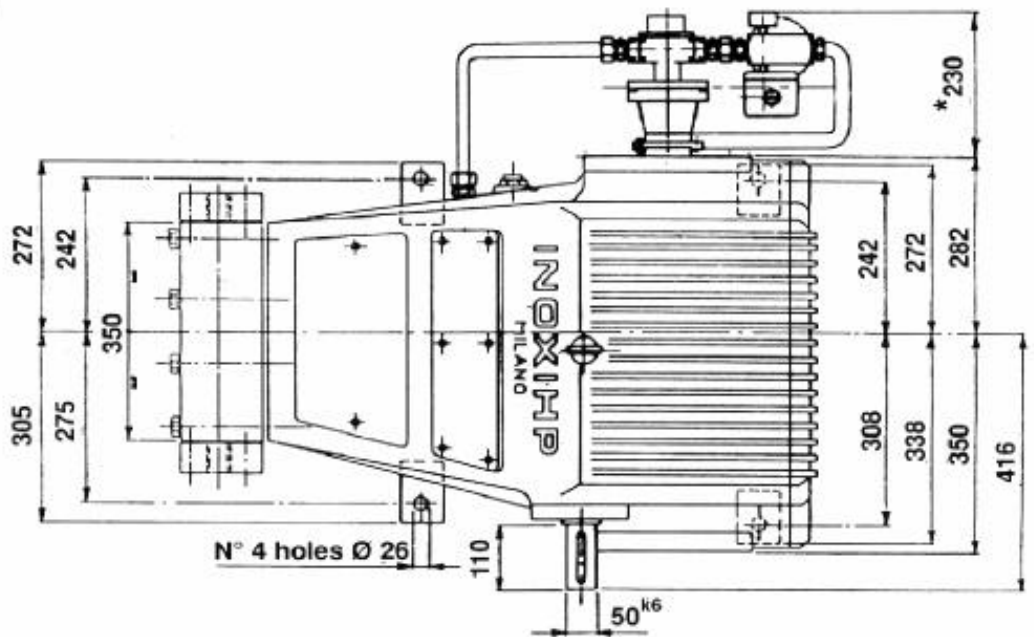




Dimensions Triplex pumps



PF 150 Kg.605
 PF 190 Kg.620
 PF 260 Kg. 680

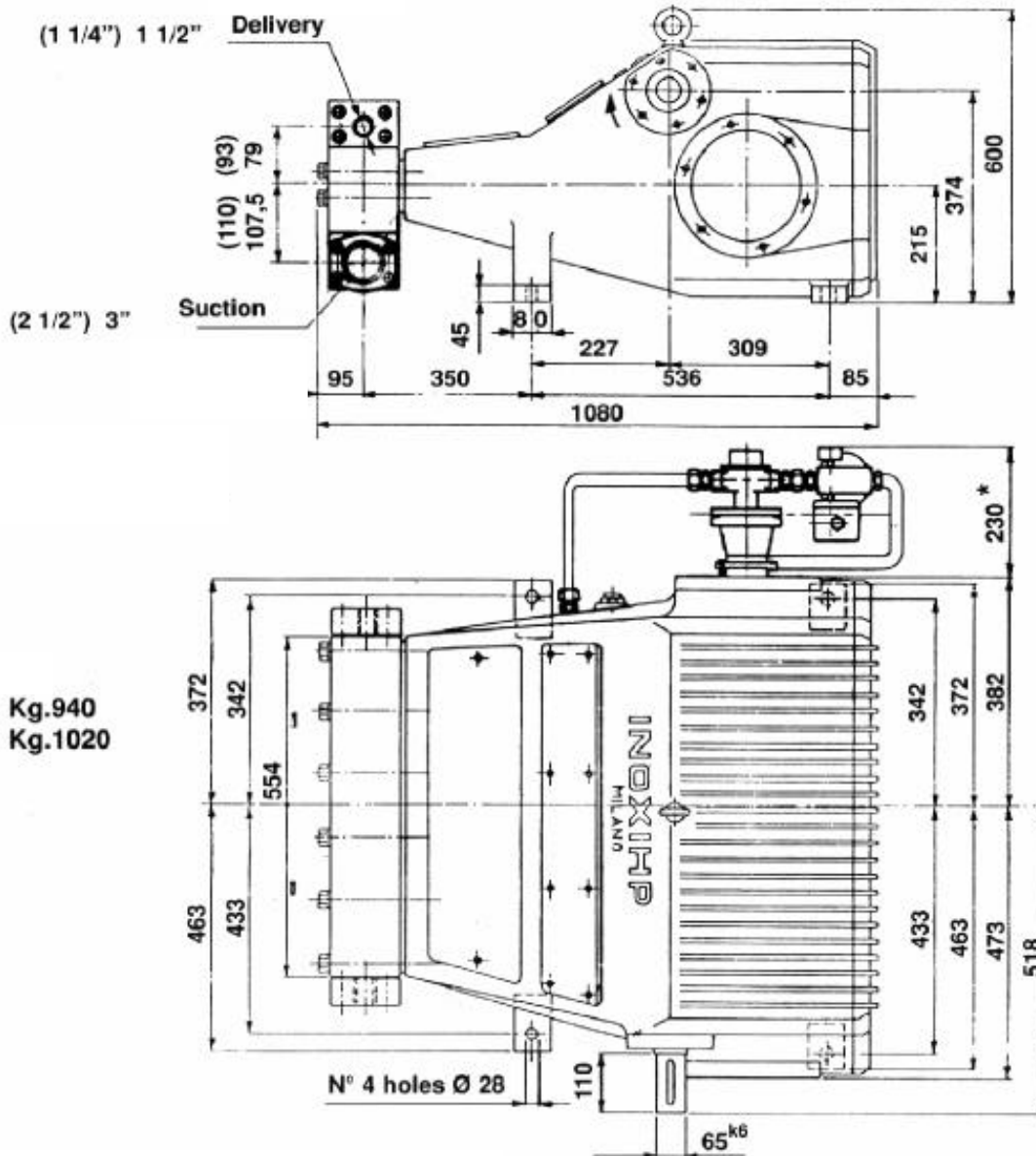


Dimensions T35 (T10)



Dimensions Quintuplex pumps

PF 300 Kg.940
 PF 330 Kg.1020



Dimensions Q35 (Q10)