High Precision

PRAKASH

FUEL INJECTION GEAR PUMPS

APPLICATIONS :-

- Boilers, Oil burner, Hydraulic drive and pressure-pump.
- Pressure and transfer pump.
- Booster pump for diesel locomotive.
- Pump for force feed lubrication, Pumps for gas oil medium, heavy and very heavy oil.
- Filter Pumping.
- Pumps for PHF Units.
- Pumps for lubrication oil and hydraulic oil.

GENERAL

"Prakash" Fuel Injection Gear Pumps are Positive Displacement Gear Pumps, available with or without built-in pressure relief valve. Pumps are of high precision and the internal lubrication system is so designed that the liquid running through the pump acts as the lubricant. Pumps are designed for wide range of applications. They are fitted with mechanical seals and can give trouble-free service for a long period. They should not be used for handling abrasive liquids with solid matter. Pumps are self-priming and give maximum vacuum of 610-660 mm Hg. They can handle non-abrasive and non-corrosive liquids of maximum viscosity of 455 Centi-stokes and temperature 200°C.

SPECIFICATION

MODEL AND GROUP		Suction Discharge Inches	Nominal Pump Rating		Recommended HP	
			LPH	RPM	3KG/CM^2	30KG/CM^2
FIG:015K	FIG-LC-150-R-3H	½	150	1440	0.25HP	1.5HP
FIG:030-K	FIG-LC-300-R-3H	½	300	1440	0.25HP	1.5HP
FIG:045-K	FIG-LC-450-R-3H	½	450	1440	0.25HP	1.5HP
FIG:060-K	FIG-LC-600-R-3H	½	600	1440	0.25HP	2.0HP
FIG:1000-KK	FIG-HC-1000-R-3H	¾	1000	1440	0.75HP	3.0HP
FIG:1500-KK	FIG-HC1500-R-3H	¾	1500	1440	0.75HP	3.0HP
FIG:2000KK	FIG-HC-2000-R-3H	¾	2000	1440	0.75HP	5.0HP
FIG:2500KK	FIG-HC-2500-R-3H	¾	2500	1440	0.75HP	5.0HP

For HC & LC Pumps

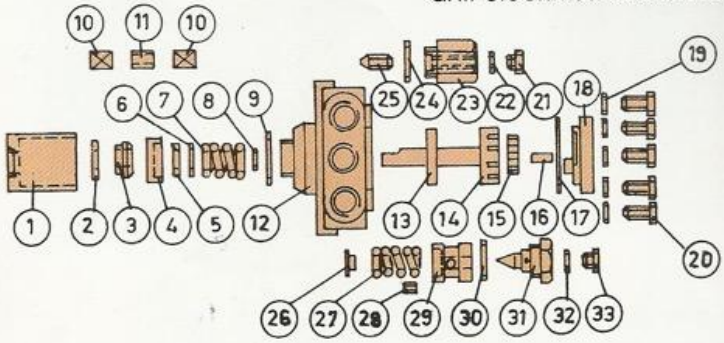
These models with three holes on top, are provided with built-in pressure relief valve and by-pass arrangement. By-pass arrangement is provided on top, in between suction ,and delivery. They are most suitable for LSHS, Furnace Oil and HFO applications, opreating pressure being 0 Kg/Cm^2 to 35 Kg/Cm^2.

(ABOVE DESCRIPTION COMMON FOR LC & HC PUMPS)

High Capacity (HC)

FIG-HC-1000-R-3H TO FIG-HC-2500-R-3H.
FIG-HC-1000-L-3H TO FIG-HC-2500-L-3H.

These pumps are unmounted, flanged type, port sizes available being 3/4" suction x 3/4" delivery. These pumps are mainly used on boilers and for burner applications. Maximum speed allowed for these higher capacity pumps is 1500RPM. Pumps are available both in clockwise and anti-clockwise directions.



1. MECHANICAL SEAL HOUSING.
2. FLAT RING.
3. BUSH WITH STEEL BALL.
4. 'O' RING HOLDER.
5. GROVED WASHER.
6. FLAT WASHER.
7. MECHANICAL SEAL SPRING.
8. CIRCLIP.
9. WASHER.
10. NEEDLE BEARING.
11. BUSH.
12. PUMP HOUSING.
13. WEAR PLATE (BEARING PLATE)
14. SHAFTED ROTOR.
15. IDLER GEAR.
16. ECCENTRIC PIN.
17. FLANG PACKING.
18. ECCENTRIC COVER.
19. WASHER.
20. ECCENTRIC BOLT.
21. PLUG.
22. PLUG WASHER.
23. ADJUSTING SCREW ADAPTOR.
24. WASHER.
25. ADJUSTING SCREW.
26. BUFFER.
27. SPRING.
28. GRUB SCREW.
29. PISTON.
30. WASHER.
31. CONICAL VALVE ADAPTOR.
32. WASHER.
33. PLUG.

WORKING OF "PRAKASH" FUEL INJECTION GEAR PUMPS :-

The positive displacement of liquid is accomplished by complete filling of the spaces between the teeth of the rotor and idler gears. The only limiting factor to achieve peak performance in a Fuel Injection Gear Pump as with all rotary gear pumps, is that the liquid pumped must be comparatively clean. With every revolution of the pump shaft, a definite amount of liquid enters the pump through the suction port. This liquid fills the spaces between the teeth of the rotor and the idler. The crescent on the pump head splits the flow of liquid as it is moved smoothly towards the discharge port. The idler gear, which carries the liquid between its teeth and the inside surface of the crescent, rotates on the pin supported by the pump head. The rotor gear, which carries the liquid between its teeth, travels between the casing and the outside surface of the crescent and is connected to the pump shaft.

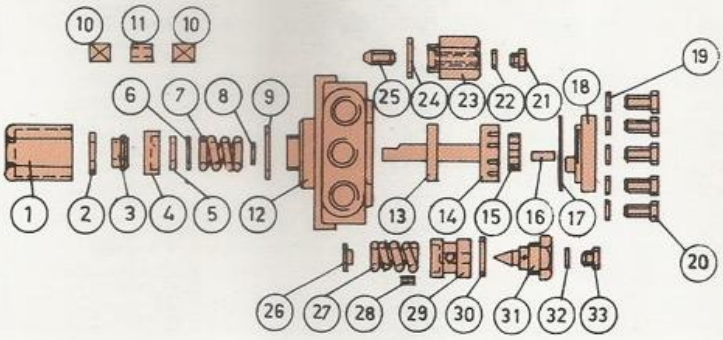
FUEL FIRING APPLICATION :-

Steam generating boilers with oil firing equipment, are progressively being equipped with rotary positive displace-ment pumps. Multistage centrifugal and reciprocating piston pumps used earlier for this duty are being replaced. In spite of high cost of fuel we still find a large number of installations equipped with low or medium pressure systems. Individual capacity of such installations may be small but large number of such systems will result in (a) considerable waste of fuel. (b) high rate of generation of gases and soot resulting in polution of atmosphere and further reduction of boiler efficiency. Even a slight increase in efficiency on account of properly designed combustion system incorporating better steaming of fuel at high pressure, would result in substantial saving of precious fuel. Therefore "Prakash" fuel injection gear pumps are ideal for such applications and are being extensively used in every industry.

Low Capacity

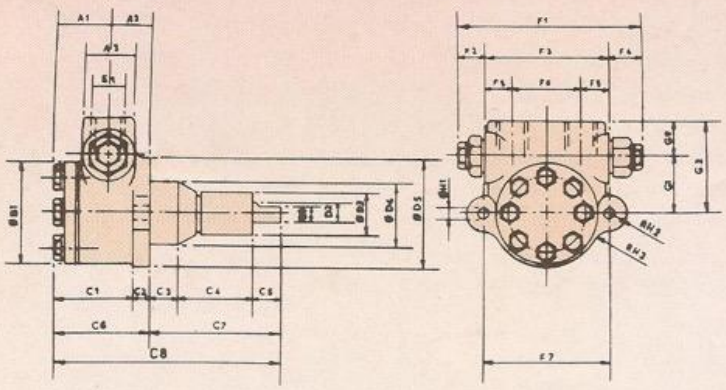
FIG-LC-150-R-3H TO FIG-LC-600-R-3H.
FIG-LC--150-L-3H TO FIG-LC-600-L-3H

These pumps are unmounted, flanged type, port sizes available being 1/2" suction x 1/2" delivery. They are mainly used on boilers and for burner applications. Maximum speed allowed for these lower capacity pumps is 2900 RPM.
Pumps are available both in clockwise and anti-clockwise directions.

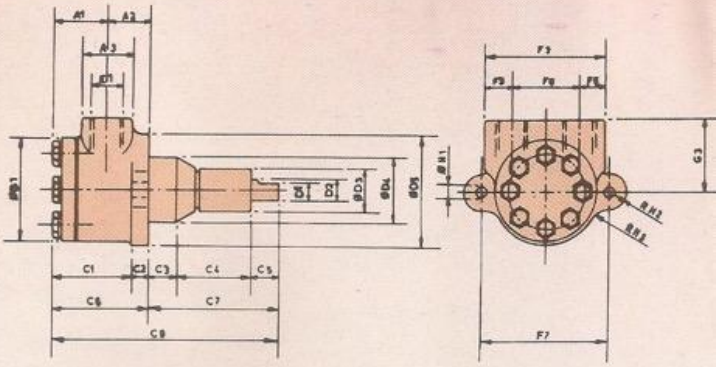


1. MECHANICAL SEAL HOUSING.
2. RECTANGULAR RING.
3. BUSH WITH STEEL BALL.
4. RECTANGULAR RING HOLDER.
5. RECTANGULAR RING.
6. WASHER.
7. MECHANICAL SEAL SPRING.
8. CIRCLIP.
9. WASHER.
10. NEEDLE BEARING.
11. BUSH.
12. PUMP HOUSING.
13. WEAR PLATE (BEARING PLATE)
14. SHAFTED ROTOR.
15. IDLER GEAR.
16. ECCENTRIC PIN.
17. FLANG PACKING.
18. ECCENTRIC COVER.
19. WASHER.
20. ECCENTRIC BOLT.
21. PLUG.
22. PLUG WASHER.
23. ADJUSTING SCREW ADAPTOR.
24. WASHER.
25. ADJUSTING SCREW.
26. BUFFER.
27. SPRING.
28. GRUB SCREW.
29. PISTON.
30. WASHER.
31. CONICAL VALVE ADAPTOR.
32. WASHER.
33. PLUG.

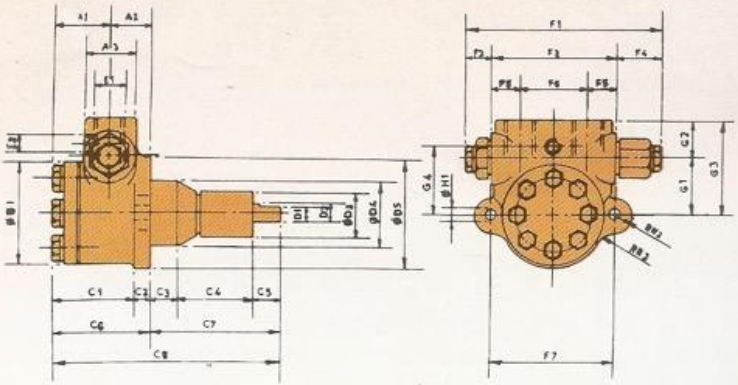
X01... Pump with Pressure Relief Valve

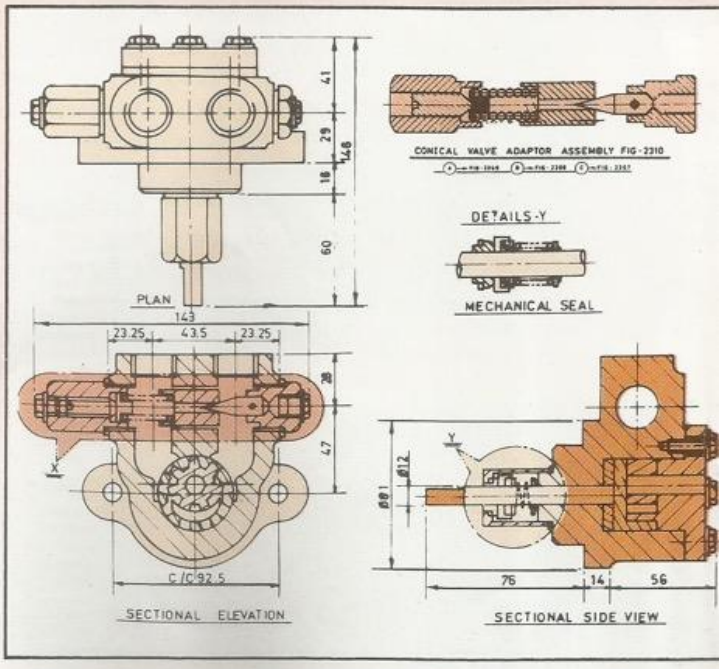


X02... Pump without Pressure Relief Valve



X03... Pump with Pressure Relief Valve & External By-Pass arrangement



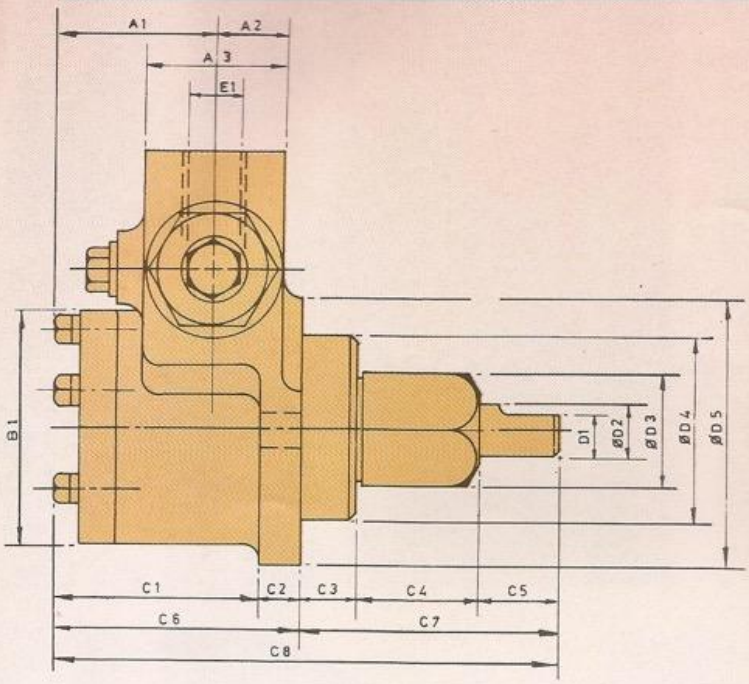


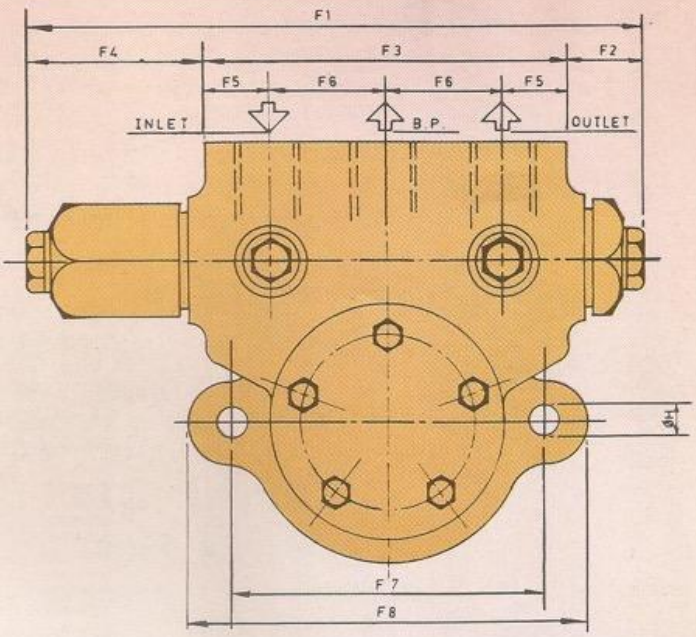
MODEL	A1	A2	A3	ØB1	C1	C2	C3	C4	C5	C6	C7	C8	D1	ØD2	ØD3	ØD4	ØD5	E1	E2	F1
KK-XO1	49	39	47	96	73	16	26	73	27	88	125	214	16.3	18	45	60	104	¾"B.S.P	-----	159
K-XO1	41	29	39	70	56	14	16	37	23	70	76	146	10.5	12	27AF	54	81	½" B.S.P	-----	143
KK-XO2	49	39	48	96	73	16	26	73	27	88	125	214	16.3	18	45	60	104	¾"B.S.P	-----	---
KXO2	41	29	39	70	56	14	16	37	23	70	76	146	10.5	12	27AF	54	81	½" B.S.P	-----	---
KK-XO3	49	39	47	96	73	16	26	73	27	88	125	214	16.3	18	45	60	104	¾"B.S.P	⅜"B.S.P	159
K-XO3	41	29	39	70	56	14	16	37	23	70	76	146	10.5	12	27AF	54	81	½" B.S.P	¼ "B.S.P	143

MODEL	A1	A2	A3	ØB1	C1	C2	C3	C4	C5	C6	C7	C8	D1	ØD2	ØD3	ØD4	ØD5	E1	BP
HC-3H	49	39	47	96	73	16	26	73	27	88	125	213	16.9	18	45	60	104	¾"B.S.P..	¾"B.S.P
LC-3H	41	29	39	70	56	14	16	37	23	70	76	146	10.5	12	27AF	54	81	½"B.S.P.	½"B.S.P

Dimensional drawings given here will assist only in planning. For definite Engi
purposes, please contact us for large scale detailed assembly and dime

Low Capacity three ports central by-pass (LC3H) or suction, by pass & Delivery on top
High Capacity three ports central by pass (HC3H) or suction, by pass & Delivery on top





Each pump is tested at 1440 rpm with oil of viscocity 32 centi-stokes at 37.5°c at normal working tempreture and 10 kgf/cm² pressure

Maximum recommended pressure for continuous duty is 30 kgf/Cm²g.

F2	F3	F4	F5	F6	F7	G1	G2	G3	G4	ØH1	RH2	RH3
16	118	25	25.5	67	120	55.25	34.75	90	----	13	15	30
15	90	38	23.25	43.5	92.5	47	28	75	----	10.5	14	14.5
---	115	---	24	67	120	----	---	66	----	13	15	30
---	82.5	---	19.5	43.5	92.5	----	----	43	----	10.5	14	14.5
16	118	25	25.5	67	120	55.25	34.75	90	64	13	15	30
15	90	38	23.25	43.5	92.5	47	28	75	47	10.5	14	14.5

F1	F2	F3	F4	F5	F6	F7	F8	ØH
197	16	150	25	23	50	120	150	13
169	15	116	38	23.2	43.5	92.5	121.5	10.5

eering design.
sional drawings.

TECHNICAL DATA

CODE EXPLANATION