

Selecting Your Pump

The pump is the “heart of your sprayer” and provided the simple operating and maintenance requirements are met, it should give long and trouble free service.

Piston diaphragm pumps are now fitted to the majority of European sprayers because of their durability, excellent performance and ease of service.

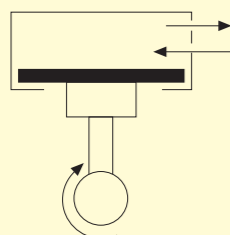
Hypro are authorised main stockists of the complete range of high quality AR piston diaphragm pumps. Hypro also offer a comprehensive range of piston and roller vane pumps.

Whatever the sprayer, whatever the duty, Hypro can help you make the right choice of sprayer pump. Hypro also hold large stocks of service parts for most other commonly used sprayer pumps.

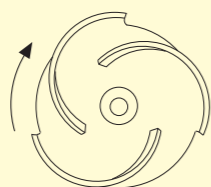


Pump Selection Guide

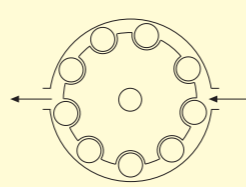
The most common types of spray pumps used in agriculture



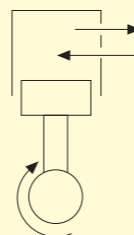
Piston Diaphragm



Centrifugal



Roller Vane



Piston

Pump Type	Flow Range L/min	Pressure	Drive Type	Typical Application and Comments
PISTON DIAPHRAGM	6.3 to 560	Medium	Electric Petrol Hydraulic PTO	<ul style="list-style-type: none"> Water, chemical and liquid fertiliser. Will not run dry Positive displacement Easy to service Long life
ROLLER VANE	45 to 241	Medium	PTO	<ul style="list-style-type: none"> Water and chemical spraying Must not run dry Limited life Low output
PISTON	8.5 to 15	High	Electric Hydraulic	<ul style="list-style-type: none"> Pressure washing with water and detergent Positive displacement Low flow relative to pressure

Flows in this catalogue are based on clean water at 13 to 18°C. When pumping liquids of different specific gravity, the flows should be multiplied by one of the following conversion factors shown on the right.

Specific Gravity	0.84	0.96	1.00	1.20	1.28	1.38	1.44	1.63
Conversion Factor (1/√SG)	1.09	1.02	1.00	0.91	0.88	0.85	0.83	0.77

Getting The Best from Your Pump

Preparation

- Visually check the pump for signs of wear or leaks.
- If possible, manually rotate the shaft to ensure free movement.
- Suction lines must be secure and free of air leaks. Sucking air into the system can impair efficiency and cause chemical to foam. Ensure that the suction filter element is clean.
- With at least one boom section open, run the pump for one or two minutes at zero pressure to evacuate all air.
- Never exceed recommended PTO speed.
- Ensure all pipework is of adequate bore size, especially the suction side, check also for restrictions.

Maintenance

Diaphragm Pumps

- Clean the pump after use by running clean water through for a few minutes. Finish with the suction line out of the water to empty the pump.
- Check oil level and if necessary top up with a good 20W/30 oil. If oil changes colour, or disappears completely, refer to Problem Solving section.
- Change oil every 200 hours, or at the end of the season, whichever is soonest. To drain, remove oil drain plug, normally located at base the pump body. Rotate the shaft by hand until oil stops flowing. Slowly with a good 20W/30 oil, rotating the shaft by hand at the same time, the level is halfway up the reservoir.
- Replace all diaphragms, and ‘O’ Ring the end of each season (see Winter Overhaul Kits).
- Completely drain pump for winter storage - especially the manifolds. Protect from frost.

Roller Vane Pumps

- Always flush pump thoroughly with lubricating oil after use.
- Test the pump at the end of each season by running it at 50 psi pressure with your largest nozzles - to ensure the flow is sufficient for the maximum sprayer application required.
- Examine condition of rollers through the pump ports. If reduced in size, or worn to a ‘conical’ configuration, pump should be reconditioned or replaced.
- To recondition the pump, replace all rollers and seals. Take great care in correctly locating seals on reassembly. If shaft is badly worn, it should be replaced. This can be difficult, and purchase of a new pump should be considered. If the inside of the pump body is worn or corroded, a new Hypro Roller Vane or Diaphragm pump should be purchased. It is not normally possible to satisfactorily recondition a Roller Vane Pump more than once (see Overhaul Kits). NB. Don’t forget to check the bearings too.

Troubleshooting - Roller Vane Pumps

PROBLEM	CAUSE	REMEDY
Pump does not suck	Rollers worn out	Replace rollers and seals or replace pump
	Rollers stuck in slot	Dismantle and free rollers
	Air entering inlet side of pump	Check inlet coupling and pipework for leaks Rotate pump with outlet taps open.
	Suction filter blocked	Clean suction filter
Nozzles “spitting”	Air leaks on inlet side	Check inlet/suction hose and couplings for air leaks. Ensure all washers and seals correctly positioned.
Pump becomes noisy	Pump starved	Check inlet pipework for restrictions
	Rollers worn out	Replace rollers and seals, or replace pump
	Inside of pump body badly worn or corroded.	Replace pump
	Running too fast creating	Slow down PTO speed
Pressure and output drop.	Rollers worn out and/or inside of pump body worn or corroded.	As for above
	Restriction in line	Check inlet and outlet pipework and rectify

Troubleshooting - Diaphragm Piston Pumps

PROBLEM	CAUSE	REMEDY
Pump does not suck	One or more valves damaged or not sealing properly	Check valves and clean valve seats
	Suction filter blocked or restriction on suction side	Clean filters and check for restrictions in suction line
Pump runs but no fluid	Pump located too far from liquid	Relocate
	Discharge height too great	Lower the height
	Major blockage in suction or delivery lines	Check and clean
Pressure gauge fluctuates badly. Nozzles "spitting"	Pump not completely evacuated of air, or is sucking air.	Check suction hose and couplings for air leaks. Rotate pump with outlet taps open, until nozzles stop "spitting"
Pump pulsates and so does pressure gauge needle	Incorrect air pressure in Air Receiver.	Starting at zero, progressively pressurise Air Receiver, with pump running until pulsations cease (normally between 25% and 33% of operating)
Oil level drops steadily and persistently	Shaft oil seal leaking	Strip pump and fit new oil seal
	Oil reservoir cracked	Check and replace
Water pumped at little or no pressure	Pressure regulator faulty or of insufficient capacity	Check and repair or replace
	Pump has insufficient capacity for nozzles fitted	Check flow rates on nozzle chart x number of nozzles. Check chemical recommendations to see if smaller jets may be used. Adjust speed/pressure accordingly
Output drops and pump	Oil level too low.	Top up with 20W/30 multi-grade oil to correct level.
Oil changes colour.	One or more leaking diaphragms allowing chemical to mix with oil	Check diaphragms and valves. Drain oil. Refill with 20W/30 oil
Oil disappears from reservoir and comes out of discharge pipe.	One or more diaphragms split.	Drain pump of oil. Dismantle heads and check diaphragms and valves (remember a broken valve can fall into the cylinder and split the diaphragm).



The Hypro AR range of piston diaphragm pumps have been fitted as original equipment to quality crop sprayers for many years and have a proven pedigree of reliability and performance.

Recent improvements include the fitting of an enhanced valve design giving improved flow capability and fully enclosed guards for the through shaft of 160, 250 and 280 models in line with health and safety requirements.

- All models feature a new valve design offering improved flow characteristics
- Safety blow off valves fitted to all pumps as standard
- Dimensionally identical to previous models for complete interchangeability
- AR pumps have a proven track record
- Hypro offer a complete spares back-up with same day despatch subject to availability
- AR pumps meet current health and safety requirements
- AR pumps are backed up by a comprehensive 12 month warranty package
- All wetted metal parts are coated to prevent corrosion.

Pumpsaver

A simple and inexpensive pump upgrade which gives early warning of oil loss or diaphragm failure when connected to an acoustic or visual alarm. This product has the potential to save on expensive repairs.



suits AR115/AR135
suits AR160/AR250/AR280/AR370

Part No.
472414
472400

Hydraulic Motor Coupling Adaptors for A/R Pumps

Hydraulic Motor Make & Type	Pump Model	Part No
Danfoss OMP25 - 32 - 40 - 50 - 80 - 100 - 160 OMR 80 - 100 ø25mm shafts	AR 70 AR 115 AR 135	47KT5350
Danfoss OMP 25 - 32 - 40 - 50 - 80 - 100 - 160 OMR 80 - 100 ø25mm shafts	AR 160 AR 250 AR 280 AR 370	47KT1568
Danfoss OMP 50 - 80 - 100 - 160 OMR 80 - 100 ø25.4mm (1") shafts	AR 70 AR 115 AR 135	47KT5341
Danfoss OMP 50 - 80 - 100 - 160 OMR 80 - 100 ø25.4mm (1") shafts	AR 160 AR 250 AR 280 AR 370	47KT1570
Danfoss OMS ø32mm shaft	AR 160 AR 250 AR 280 AR 370	47KT1569
Danfoss OMS Z14 shaft	AR 160 AR 250 AR 280 AR 370	47KT5349



Note: Please contact Hypro for details of coupling adaptors for other hydraulic motor and pump models.

Diaphragm Piston Pumps

Hypro AR DUE

A semi-hydraulic, twin diaphragm pump*, complete with continuous duty 12V, or 240V electric motors.

(Maximum flow 13 L/min - Maximum pressure 20 Bar - 240V versions)

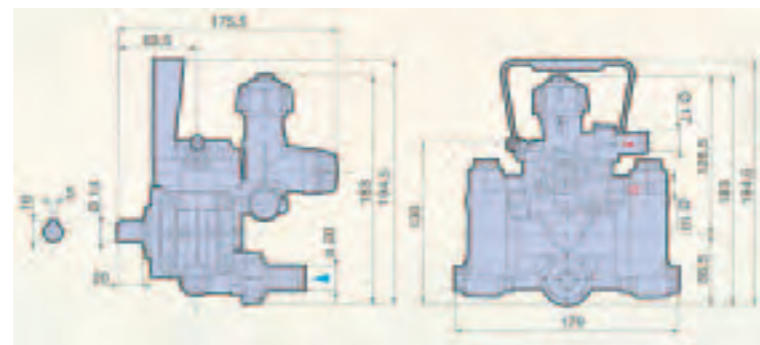
(Maximum flow 12 L/min - Maximum pressure 10 Bar - 12V version)

Inlet Port: 3/4" BSP(M) + 3/4" BSP(F) cap c/w 3/4" Hosetail Liner

Bypass Port: 3/4" BSP(M) + 3/4" BSP(F) cap c/w 5/8" Hosetail Liner

Outlet Port: 3/8" BSP(M) + 3/8" BSP(F) cap c/w 3/8"

- Built in pressure regulator
- Auxiliary outlet for hand lance
- Complete with pulsation damper
- Easy access valves



	Part No.
C/W 12V Motor	37ARDUE12
C/W 240V Motor	37ARDUE240

* Other drive types available, please ask for details

RPM	1000		1200		1300		1450	
psi	GPM	HP	GPM	HP	GPM	HP	GPM	HP
0	2.4	0.1	2.8	0.1	3	0.2	3.5	0.2
145	2.3	0.1	2.7	0.3	4	0.3	3.3	0.3
218	2.2	0.3	2.6	0.4	2.9	0.4	3.2	0.5
290	2.2	0.4	2.6	0.5	2.8	0.6	3.1	0.6
Bar	L/1'	HP	L/1'	HP	L/1'	HP	L/1'	HP
0	9	0.1	11	0.1	12	0.2	13	0.2
10	8.6	0.1	10.3	0.3	11.2	0.3	12.5	0.3
15	8.3	0.3	9.9	0.4	10.8	0.4	12.0	0.5
20	8.1	0.4	9.8	0.5	10.6	0.6	11.8	0.6

Diaphragm Piston Pumps

Hypro AR 202

A semi hydraulic, twin diaphragm pump with optional drive.

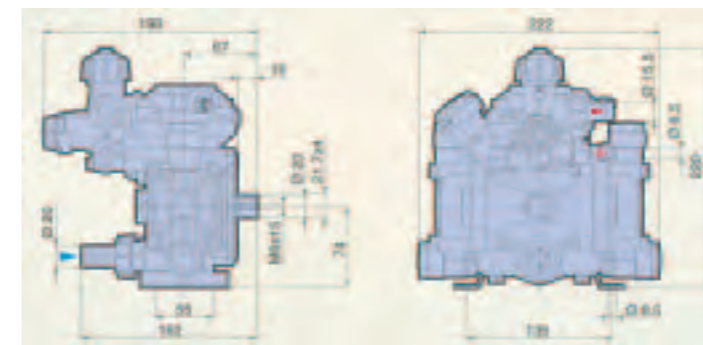
(Maximum flow 20 L/min - Maximum pressure 25 Bar - Maximum 60°C)

Inlet Port: 3/4" BSP(M) + 3/4" BSP(F) cap c/w 3/4" Hosetail Liner

Outlet Port: 3/8" BSP(M) + 3/8" BSP(F) cap c/w 3/8" Hosetail Liner

Bypass Port: 3/4" BSP(M) + 3/4" BSP(F) cap c/w 5/8" Hosetail Liner

- Built in pressure regulator
- Auxiliary outlet for hand lance
- Complete with pulsation damper
- Easy access valves



AR 202	Weight	Part No.
C/W 240V Motor	16.8Kg	37AREM202
C/W 3/4" dia Bare Shaft	4.0Kg	37ARB0202

RPM	450		500		600		650	
psi	GPM	HP	GPM	HP	GPM	HP	GPM	HP
0	3.8	0.1	4.2	0.1	4.9	0.2	5.3	0.2
145	3.1	0.2	3.4	0.3	4.0	0.4	4.3	0.6
290	3.0	0.5	3.3	0.6	3.9	0.7	4.2	0.8
363	3.0	0.6	3.3	0.6	3.9	0.8	4.2	0.9
Bar	L/1'	HP	L/1'	HP	L/1'	HP	L/1'	HP
0	14.4	0.1	16.0	0.1	18.4	0.2	19.9	0.2
10	11.7	0.2	13.0	0.3	15.0	0.4	16.3	0.6
20	11.3	0.5	12.5	0.6	14.7	0.7	16.0	0.8
25	11.2	0.6	12.4	0.6	14.6	0.8	15.9	0.9

Diaphragm Piston Pumps

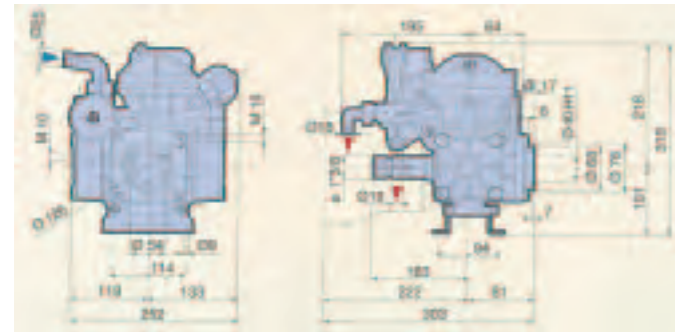
Hypro AR 30

A semi hydraulic, twin diaphragm pump* - PTO driven.(Maximum flow 35 L/min - Maximum pressure 40 Bar)

Inlet Port: 1" BSP(F) + 1" hex. Nipple + 1" 90° Hosetail Cap and Liner

Outlet Port: ½" BSP(M) + ½" Hosetail Cap and Liner

- Capable of generating 40 Bar (588 psi)
- Ideal for misting, humidification and vehicle washing
- Complete with pulsation damper.



AR 30	Weight	Part No.
C/W PTO Quick Release Coupling, Torque Plate, Chains and Guard	11.9Kg	37ART030
C/W Splined Shaft, Guard and Mounting Feet	10.6Kg	37ARS030

* Other drive types available, please ask for details.

RPM	350		450		500		550	
	psi	GPM	HP	GPM	HP	GPM	HP	GPM
0	6	0.6	8	0.8	8.5	0.8	9	0.9
290	5.7	1.1	7.4	1.5	8.2	1.6	9	1.8
430	5.6	1.7	7.1	2.1	7.9	2.4	8.7	2.6
580	5.2	2.1	6.7	2.7	7.5	3	8.2	3.2
Bar	L/1'	HP	L/1'	HP	L/1'	HP	L/1'	HP
0	22	0.6	29	0.8	32	0.8	35	0.9
20	21.5	1.1	28	1.5	31	1.6	34	1.8
30	21	1.7	27	2.1	30	2.4	33	2.6
40	19	2.1	25.5	2.7	28	3	31	3.2

Diaphragm Piston Pumps

Hypro AR 70

A semi hydraulic, twin diaphragm pump - PTO or hydraulically driven. (Maximum flow 72 L/min - Maximum pressure 20 Bar)

Inlet Port: 1" BSP(F) + 1¼" x 1" BSP Nipple + 1¼" BSP(F) x 1" OD 90° Hosetail Cap and Liner

Outlet Port: 1" BSP(F) + 1" BSP Nipple+ 1" BSP(F) OD 90° Hosetail Cap and Liner

For alternative hosetail options see Spares Data later in this section.

- Ideal for smaller mounted sprayers
- Complete with pulsation damper



AR 70	Weight	Part No.
C/W 35mm dia Bare Shaft (10mm Pin Hole)	11.0Kg	37ARB070
C/W PTO Quick Release Coupling, Torque Plate, Chains and Guard	12.5Kg	37AR0070
C/W Splined shaft, Guard and Foot Plate	12.0Kg	37ARS070
Conversion kit 35mm Pin hole to 30mm keyway shaft		4760100C

RPM	350		450		500		550	
	psi	GPM	HP	GPM	HP	GPM	HP	GPM
0	12.7	0.3	15.7	0.4	17.2	0.6	19.0	0.6
145	10.7	1.2	13.5	1.6	14.9	1.8	16.0	1.9
218	10.3	1.7	13.4	2.3	14.4	2.5	15.9	2.7
290	10.0	2.2	13.0	2.8	14.1	3.1	15.8	3.4
Bar	L/1'	HP	L/1'	HP	L/1'	HP	L/1'	HP
0	47.9	0.3	59.6	0.4	65.0	0.6	71.8	0.6
10	40.4	1.2	51.2	1.6	56.4	1.8	60.4	1.9
15	39.0	1.7	50.6	2.3	54.4	2.5	60.1	2.7
20	37.8	2.2	49.2	2.8	53.2	3.1	59.7	3.4

Diaphragm Piston Pumps

Hypro AR 115

A semi hydraulic, three diaphragm pump - PTO or hydraulically driven. (Maximum flow 113 L/min - Maximum pressure 20 Bar)

Inlet Port: 1/4" BSP(F) + 1/4" x 1/4" BSP Nipple + 1/4" BSP(F) x 40mm OD 90° Hosetail Cap and Liner

Outlet Port: 1" BSP(F) + 1" BSP Nipple + 1" BSP(F) x 1" OD 90° Hosetail Cap and Liner

For alternative Hosetail options see Spares Data later in this section.

- Ideal for mounted and smaller trailed sprayers
- Complete with pulsation damper.



AR 115	Weight	Part No.
C/W 35mm dia Bare Shaft (10mm Pin Hole)	14.8Kg	37ARB115
C/W PTO Quick Release Coupling, Torque Plate, Chains and Guard	15.5Kg	37AR0115
C/W Splined Shaft, Guard and Foot Plate	15.0Kg	37ARS115

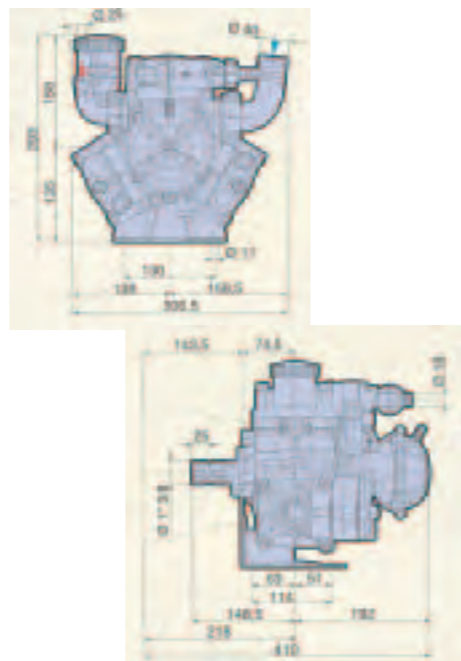
AR 115 / 1000 RPM

C/W splined shaft, guard and foot plate
max flow = 94 L/min,
max pressure = 15 bar

37ARS115-1000

Conversion kit: 35mm Pin Hole to 30mm Keyway Shaft

4760100C



RPM	350		450		500		550		
	psi	GPM	HP	GPM	HP	GPM	HP	GPM	HP
0	19.3	0.3	24.8	0.4	27.1	0.7	30.1	0.8	
145	18.7	1.8	24.0	2.4	26.4	2.7	29.0	3.0	
218	18.6	2.7	23.9	3.5	26.2	3.9	28.8	4.3	
290	18.5	3.6	23.8	4.5	26.1	5.0	28.7	5.5	
Bar	L/1'	HP	L/1'	HP	L/1'	HP	L/1'	HP	
0	73.1	0.3	94.0	0.4	102.7	0.7	113.8	0.8	
10	70.8	1.8	91.0	2.4	99.8	2.7	109.8	3.0	
15	73.0	2.7	90.5	3.5	99.1	3.9	109.0	4.3	
20	70.0	3.6	90.0	4.5	98.6	5.0	108.8	5.5	

Diaphragm Piston Pumps

Hypro AR 135

A semi hydraulic, three diaphragm pump - PTO driven. (Maximum flow 133 L/min - Maximum pressure 20 Bar)

Inlet Port: 1/4" BSP(F) + 1/4" x 1/4" BSP Nipple + 1/4" BSP(F) x 40mm OD 90° Hosetail Cap and Liner

Outlet Port: 1" BSP(F) + 1" BSP Nipple + 1" BSP(F) x 1" OD 90° Hosetail Cap and Liner

For alternative Hosetail options see Spares Data later in this section.

- Ideal for mounted and smaller trailed sprayers
- Complete with pulsation damper.



AR 135	Weight	Part No.
CC/W 35mm dia Bare Shaft (10mm Pin Hole)	14.8K	37ARB135
C/W PTO Quick Release Coupling, Torque Plate, Chains and Guard	15.5Kg	37AR0135
C/W Splined Shaft, Guard and Foot Plate	15.0Kg	37ARS135
Conversion kit: 35mm Pin Hole to 30mm Keyway Shaft	-	4760100C



RPM	350		450		500		550		
	psi	GPM	HP	GPM	HP	GPM	HP	GPM	HP
0	22.8	0.4	29.3	0.6	31.5	1.1	34.8	1.2	
145	22.1	2.3	28.4	2.9	30.5	3.4	33.6	3.8	
218	22.0	3.2	28.3	4.2	30.4	4.8	33.4	5.3	
290	21.7	4.3	27.9	5.5	30.3	6.1	33.3	6.7	
Bar	L/1'	HP	L/1'	HP	L/1'	HP	L/1'	HP	
0	86.4	0.4	111.0	0.6	119.4	1.1	131.7	1.2	
10	83.6	2.3	107.5	2.9	115.4	3.4	127.0	3.8	
15	83.2	3.2	107.0	4.2	115.0	4.8	126.5	5.3	
20	82.1	4.3	105.5	5.5	114.5	6.1	126.0	6.7	

Diaphragm Piston Pumps

Hypro AR 160

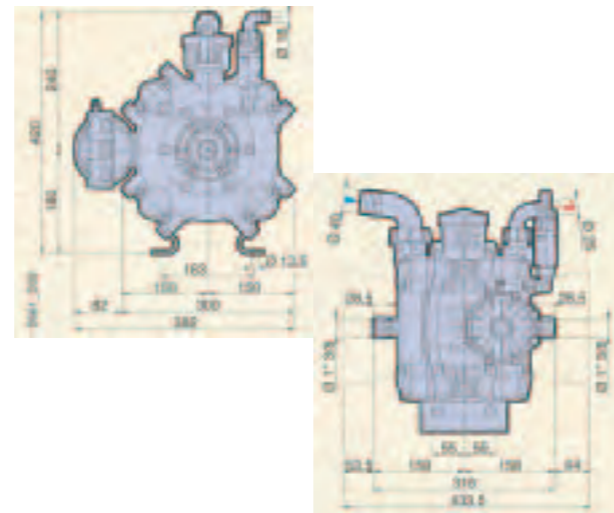
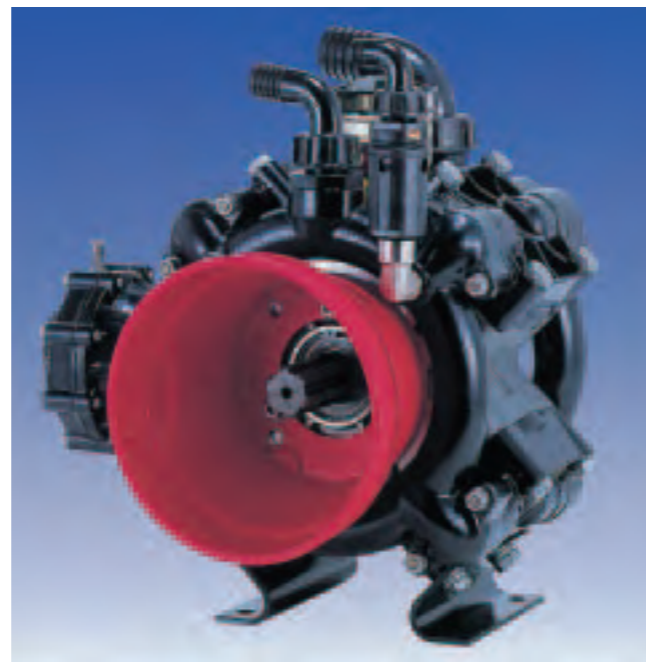
A semi hydraulic, four diaphragm pump - PTO or hydraulically driven (Maximum flow 160 L/min - Maximum pressure 20 Bar)

Inlet Port: 1 1/4" BSP(F) + 1 1/4" x 2" BSP Nipple + 2" BSP(F) x 2" OD 90° Hosetail Cap and Liner

Outlet Port: 1 1/4" BSP(F) + 1 1/4" x 1 1/2" BSP Nipple + 1 1/2" BSP(F) x 1 1/2" OD 90° Hosetail Cap and Liner

For alternative hosetail options see Spares Data later in this section.

- Ideal for trailed and smaller self propelled sprayers
- Optional pulsation damper
- Through shaft with fully enclosed guard.



AR 160	Weight	Part No.
C/W Through Splined Shaft, Mounting Feet and Guards	27.0Kg	37AR0160
As above, plus Pulsation Damper	28.0Kg	37ARA160

Diaphragm Piston Pumps

Hypro AR 250

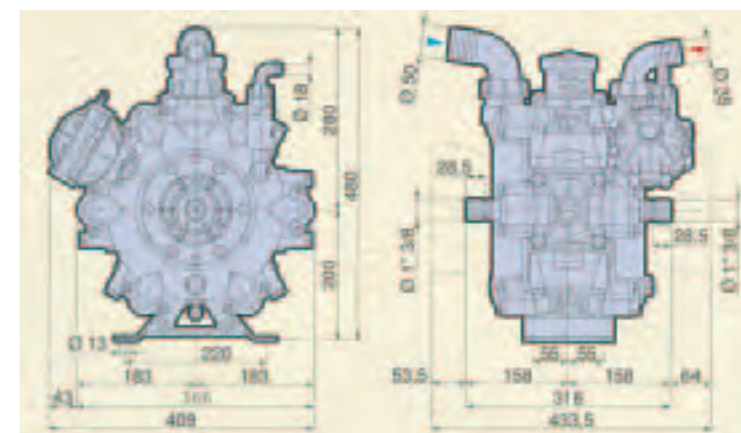
A semi hydraulic, six diaphragm pump - PTO or hydraulically driven. (Maximum flow 249 L/min - Maximum pressure 20 Bar)

Inlet Port: 1 1/4" BSP(F) + 1 1/4" x 2" BSP Nipple + 2" BSP(F) x 2" OD 90° Hosetail Cap and Liner

Outlet Port: 1 1/4" BSP(F) + 1 1/4" x 2" BSP Nipple + 2" BSP(F) x 2" OD 90° Hosetail Cap and Liner

For alternative Hosetail options see Spares Data later in this section.

- Ideal for trailed and self propelled sprayers
- Optional pulsation damper
- Through shaft with fully enclosed guard.



AR 250	Weight	Part No.
C/W Through Splined Shaft, Mounting Feet and Guards	38.0Kg	37AR0250
As above, plus Pulsation Damper	39.0Kg	37ARA250

RPM	350		450		500		550	
	psi	GPM	HP	GPM	HP	GPM	HP	GPM
0	27.7	0.7	35.7	0.9	38.4	1.3	42.5	1.4
145	25.2	2.5	32.4	3.3	35.8	3.9	39.4	4.3
218	24.7	3.7	31.7	4.7	35.2	5.3	38.7	5.8
290	24.2	4.5	31.2	5.9	34.6	6.7	38.2	7.4
Bar	L/1'	HP	L/1'	HP	L/1'	HP	L/1'	HP
0	105.0	0.7	135.0	0.9	145.4	1.3	160.9	1.4
10	95.4	2.5	122.6	3.3	135.5	3.9	149.0	4.3
15	93.4	3.7	120.0	4.7	133.2	5.3	146.5	5.8
20	91.7	4.5	118.0	5.9	130.9	6.7	144.6	7.4

RPM	350		450		500		550	
	psi	GPM	HP	GPM	HP	GPM	HP	GPM
0	41.9	1.3	53.9	1.7	59.6	2.5	65.9	2.8
145	39.7	3.8	51.0	4.9	56.7	5.6	62.4	6.2
218	38.9	7.2	49.4	9.3	55.0	10.4	60.7	11.5
290	38.4	7.2	49.4	9.3	55.0	10.4	60.7	11.5
Bar	L/1'	HP	L/1'	HP	L/1'	HP	L/1'	HP
0	158.6	1.5	204.0	1.7	225.4	2.5	249.6	2.8
10	150.1	3.8	193.0	4.9	214.5	5.6	236.0	6.2
15	147.3	5.5	189.5	7.1	210.0	8.1	231.0	8.9
20	145.2	7.2	186.6	9.3	208.2	10.4	229.7	11.5

Diaphragm Piston Pumps

Hypro AR 280

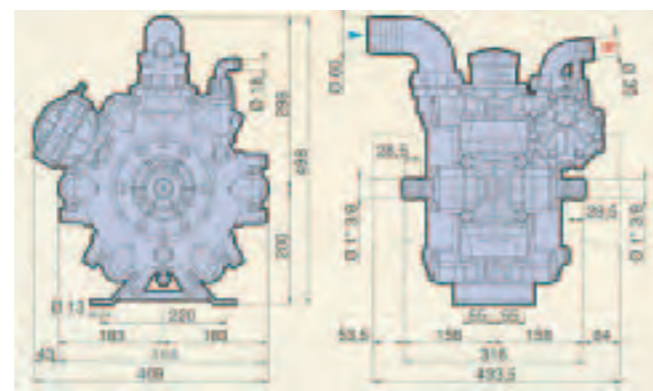
A semi hydraulic, six diaphragm pump - PTO or hydraulically driven.
(Maximum flow 282 L/min - Maximum pressure 20 Bar)

Inlet Port: 1 1/4" BSP(F) + 1 1/4" x 2" BSP Nipple + 2" BSP(F) x 2" OD 90° Hosetail Cap and Liner

Outlet Port: 1 1/4" BSP(F) + 1 1/4" x 2" BSP Nipple + 2" BSP(F) x 2" OD 90° Hosetail Cap and Liner

For alternative Hosetail options see Spares Data later in this section.

- Ideal for trailed and self propelled sprayers
- Optional pulsation damper
- Through shaft with fully enclosed guard



AR 280	Weight	Part No.
C/W Through Splined Shaft, Mounting Feet and Guards	38.0Kg	37AR0280
As above, plus Pulsation Damper	39.0Kg	37ARA280

Diaphragm Piston Pumps

Hypro AR 370

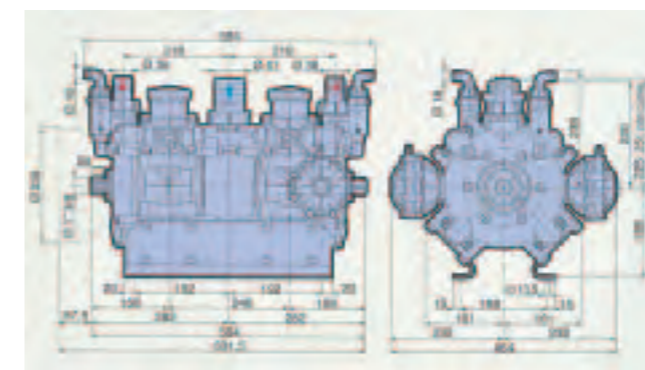
Semi-hydraulic eight (four plus four) diaphragm pump with two air chambers, one for each manifold.
ø60mm bend suction kit available on request. (Maximum flow 371 L/min - Maximum pressure 20 Bar)

Inlet Port: 2 1/2" BSP + 2 1/2" BSP(F) x 60mm OD Hosetail Cap and Liner

Outlet Port: 1 1/4" BSP + 1 1/4" x 1 1/4" BSP Nipple + 1 1/2" BSP(F) x 35mm OD 90° Hosetail Cap and Liner

For alternative hosetail options see Spares Data later in this section.

- Ideal for trailed and smaller self propelled sprayers
- Optional pulsation damper
- Through shaft with fully enclosed guard



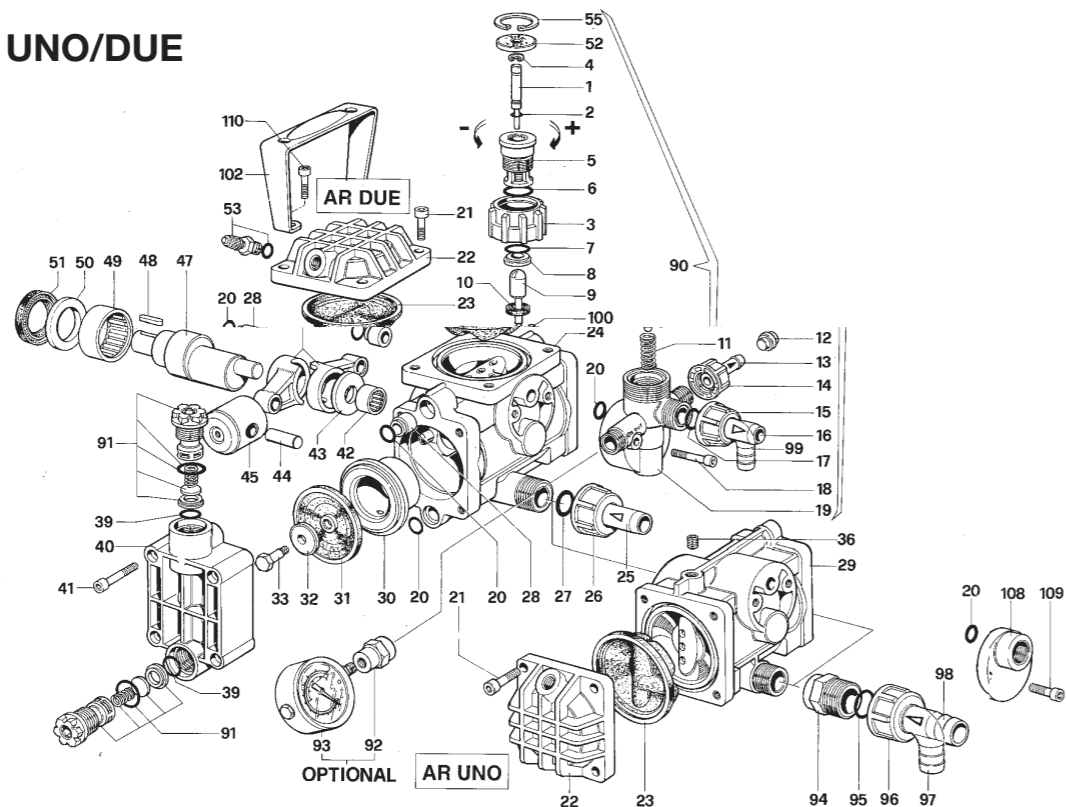
AR 370	Weight	Part No.
As above, plus Pulsation Damper	58.0Kg	37ARA370
Also available:		
AR 500 500 L/min, 20 bar		37ARA500
AR 560 560 L/min, 20 bar		37ARA560

RPM	350		450		500		550		
	psi	GPM	HP	GPM	HP	GPM	HP	GPM	HP
0	47.4	1.6	61.0	2.2	67.7	3.5	74.5	3.8	
145	45.1	4.5	58.0	5.7	63.5	6.3	69.8	6.9	
218	44.1	6.3	56.8	8.1	63.1	9.1	69.4	10.0	
290	43.9	8.0	56.4	10.4	62.7	11.7	69.0	12.9	
Bar	L/1'	HP	L/1'	HP	L/1'	HP	L/1'	HP	
0	179.5	1.6	230.8	2.2	256.4	3.5	282.0	3.8	
10	170.6	4.5	219.4	5.7	240.3	6.3	264.3	6.9	
15	167.1	6.3	214.9	8.1	238.8	9.1	262.7	10.0	
20	166.2	8.0	213.6	10.4	237.3	11.7	262.0	12.9	

RPM	350		450		500		550		
	psi	GPM	HP	GPM	HP	GPM	HP	GPM	HP
0	63.4	2.1	80.8	3.1	88.0	4.1	98.2	5.2	
145	59.7	6.2	75.7	7.9	82.8	9.0	92.3	9.9	
218	57.5	8.7	73.6	11.2	81.0	12.3	90.9	13.7	
290	56.1	11.0	72.5	14.3	79.0	15.8	89.8	17.3	
Bar	L/1'	HP	L/1'	HP	L/1'	HP	L/1'	HP	
0	240.0	2.1	305.8	3.1	333.2	4.1	371.5	5.2	
10	226.0	6.2	286.6	7.9	313.5	9.0	349.5	9.9	
15	217.6	8.7	278.5	11.2	306.4	12.3	343.9	13.7	
20	212.2	11.0	274.3	14.3	298.9	15.8	339.8	17.3	

Diaphragm Pumps Spares

Hypro AR UNO/DUE



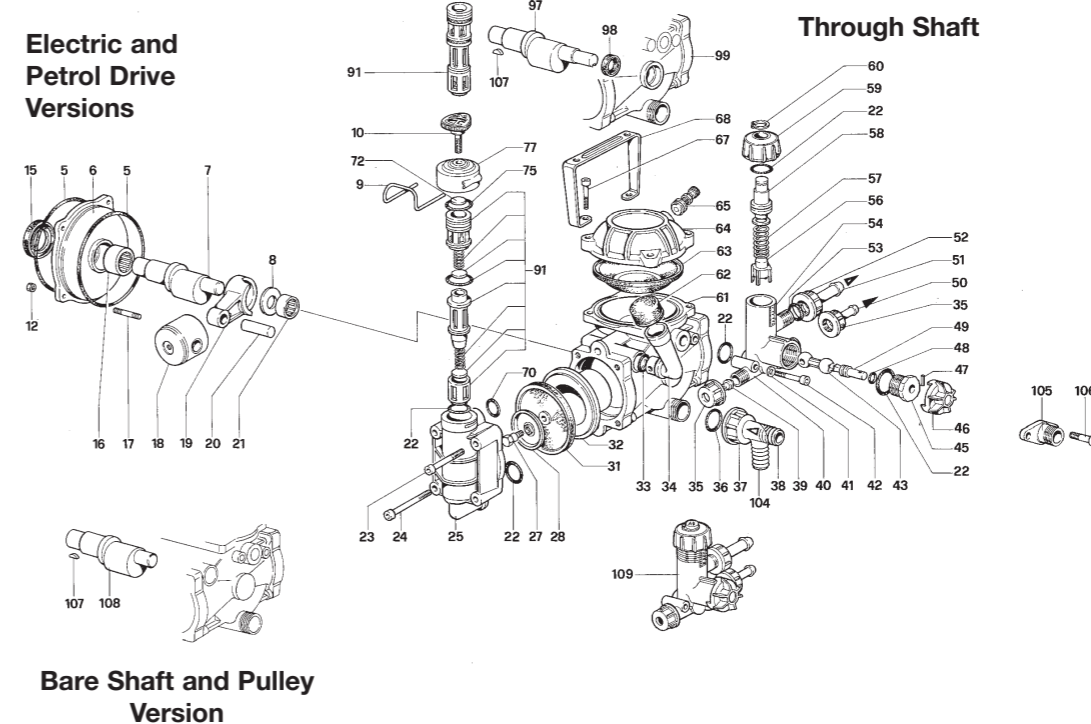
Item	Part No	Quantity	
		UNO	DUO
1 Spindle	471200700	1	1
2 'O' Ring 2.9 x 1.78 dia	471080190	1	1
3 Nut	471200361	1	1
4 Circlip	47395260	1	1
5 Seat	471200371	1	1
6 'O' Ring 17.13 x 2.62 dia	47480440	1	1
7 'O' Ring 15.6 x 1.78 dia	471200690	1	1
8 Seat	471200380	1	1
9 Plunger AR UNO	471200391	1	-
9 Plunger AR DUE	471200390	-	1
10 Washer	471200410	1	1
11 Spring	471200420	1	1
12 Seat	47800540	1	1
13 10mm Hosetail Liner	47800530	1	1
14 Hosetail Nut 3/8" BSP	47800520	2	2
15 Hosetail Nut 1/2" BSP	471200330	1	1
16 13mm Hosetail Liner	471200340	1	1
17 'O' Ring 11.91 x 2.62 dia	47390080	1	1
18 Allen Head Bolt M6 x 35	471200440	2	2
19 Body	471200400	1	1
20 'O' Ring 9.25 x 1.78 dia	47880840	4	6
21 Allen Head Bolt M8 x 20	47180030	4	2
22 Air Receiver Head	471200230	1	1
23 Air Receiver Diaphragm	471200190	1	1
24 Main Casting AR Due	471200010	-	1
25 17mm Hosetail Liner	471200470	1	1
26 Hosetail Nut 3/4" BSP	47800680	1	1
27 'O' Ring 13.95 x 2.62 dia	47640070	1	1
28 Spacer	471200220	2	3
29 Main Casting AR UNO	471200011	1	-
30 Liner 1450 RPM	471200110	1	2
30 Liner 1750 RPM	471200111	1	2
31 Diaphragm, Rubber	471200080	1	2
31 Diaphragm, Desmopan	471200085	1	2
32 Retaining Disc	471200300	1	2
33 Stud	471200090	1	2
36 Stud M10 x 10	47770070	1	-

Item	Part No	Quantity	
		UNO	DUO
39 'O' Ring 12.42 x 1.78 dia	47394280	2	4
40 Cylinder head	471200100	1	2
41 Allen Head Bolt M6 x 40	47800410	4	8
42 Bearing	471200310	1	1
43 Spacer	471200160	1	1
44 Piston Pin	471200130	1	2
45 Piston	471200120	1	2
46 Con Rod	471200140	1	2
47 Shaft 1450 RPM	471200170	1	1
47 Shaft 1750 RPM	471200171	1	1
48 Key	471200450	1	1
49 Valve	471200180	1	1
50 Spacer	471200150	1	1
51 Oil Seal	471200200	1	1
52 Disc	471200351	1	1
53 Valve	471200280	1	1
55 Circlip	471200710	1	1
90 Regulating Valve Assembly	471994	-	1
90 Due	471994	-	1
90 Uno	471995	1	-
91 Valve Assembly	471209050	2	4
92 Gauge Adaptor	47801060	1	1
93 Pressure Gauge	47801050	1	1
94 Adaptor	471200850	1	1
95 'O' Ring 18.72 x 2.62 dia	47390180	1	1
96 Hosetail Nut 3/4" BSP	47550450	1	1
97 18mm 90° Hosetail Liner	47550460	1	1
98 20mm Hosetail Liner	47800340	1	1
99 13mm 90° Hosetail Liner	471200860	1	1
100 'O' Ring 2.57 x 1.78 dia	471200890	1	1
102 Handle	47800390	-	1
108 Flange	471200650	1	1
109 Allen Head Bolt M6 x 22	471040370	2	2
110 Allen Head Bolt M8 x 22	47320360	-	2

Part No. **47KITUNO** Winter Overhaul Kit
 Part No. **47KITDUE** Winter Overhaul Kit
 (Contain Diaphragms and Valve Assemblies)

Diaphragm Pumps Spares

Hypro AR 202



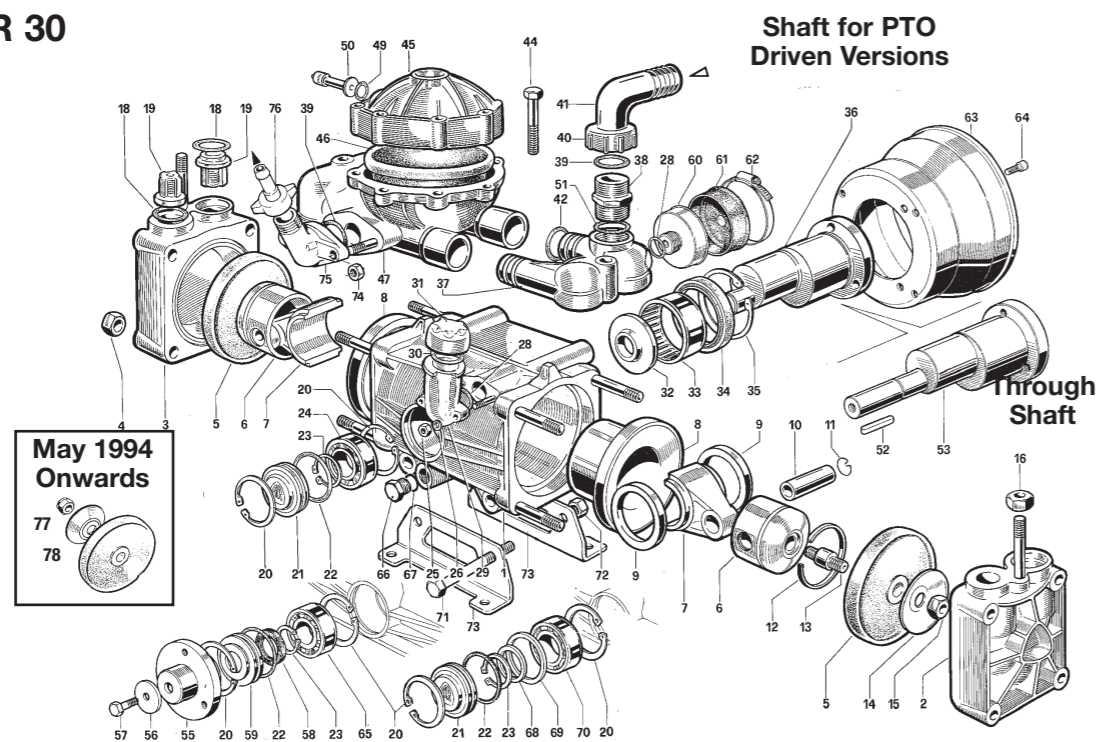
Item	Part No	Qty
5 'O' Ring 97 x 1.6 dia	47800380	2
6 Flange	47800020	1
7 Shaft (Electric & Petrol Drive)	47800170	1
8 Spacer	47800160	1
9 Fork	47800150	2
10 Handle	47800370	2
12 Nut M6	47390440	4
15 Oil Seal	47800200	1
16 Bearing	47800180	1
17 Stud M6 x 34	47550330	4
18 Piston	47800120	2
19 Con Rod	47800140	2
20 Piston Pin	47800130	2
21 Bearing	47480370	1
22 'O' Ring 17.13 x 2.62 dia	47480440	7
23 Allen Head Bolt M8 x 50	41680360	1
24 Allen Head Bolt M8 x 45	47800220	7
25 Cylinder Head	47800100	2
27 Stud	47800090	2
28 Diaphragm Disc	47800350	2
31 Rubber Diaphragm	47800080	2
31 Desmopan Diaphragm	47800085	2
32 Liner	47800110	2
33 'O' Ring 14 x 1.78 dia	47740290	1
34 Oil Reservoir	47800320	1
35 Hosetail Nut 3/8" BSP	47800520	2
36 'O' Ring 18.72 x 2.62 dia	47390180	1
37 Hosetail Nut 3/4" BSP	47550450	1
38 20mm Hosetail Liner	47800340	1
39 Blank	47800540	1
40 Regulator Body	47800400	1
41 Washer	47550331	2
42 Allen Head Bolt M6 x 40	47800410	2
43 Valve	47800430	1
45 Nut	47800500	1
46 Adjusting Knob	47800510	1

Item	Part No	Qty
47 Roll Pin	47390330	1
48 'O' Ring 8.73 x 1.78 dia	47800560	1
49 Spindle	47800490	1
50 10mm Hosetail Liner	47800530	1
51 15mm Hosetail Liner	47800670	1
52 Hosetail Nut M22 x 1.5	47800680	1
53 'O' Ring 11.11 x 1.78 dia	47770140	1
54 Scale	47800480	1
56 Guide	47800440	1
57 Spring	47800450	1
58 Spring Guide	47800460	1
59 Knob	47800470	1
60 Circlip	47480550	1
61 Main Casting	47800010	1
62 Oil Reservoir Cap	47800330	1
63 Air Receiver Diaphragm	47800190	1
64 Air Receiver Head	47800230	1
65 Valve	47800650	1
67 Allen Head Bolt M8 x 25	47540290	4
68 Handle	47800390	1
70 'O' Ring 13.10 x 2.62 dia	47800210	2
72 Seat	47800060	2
75 'O' Ring 20.22 x 3.53 dia	47200540	4
77 Cap	47800360	2
91 Valve Assembly	47809050	2
97 Shaft	47800173	1
98 Oil Seal	47800960	1
99 Main Casting (Through Shaft)	47800011	1
104 18mm 90° Hosetail Liner	47550460	1
105 Flange	47800692	1
106 Allen Head Bolt M6 x 18	47800280	2
107 Key	47800590	1
108 Shaft (Bare Shaft & Pulley)	47800171	1
109 Regulating Valve Assembly	471912	1

Part No. **47KIT019** Winter Overhaul Kit
 (Contains Diaphragms and Valve Assemblies).

Diaphragm Pumps Spares

Hypro AR 30



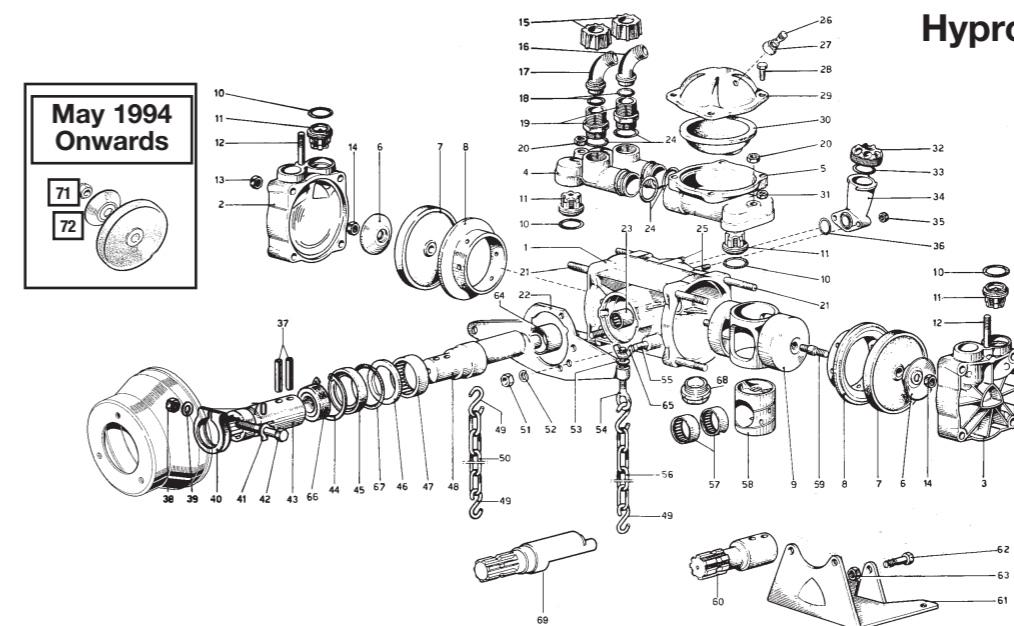
Item	Part No	Qty	
1	Main Casting	47620010	1
2	Cylinder Head R/H	47620101	1
3	Cylinder Head L/H	47620102	1
4	Nut M12	47320130	2
5	Rubber Diaphragm	47620080	8
5	Desmopan Diaphragm	47620085	2
6	Piston	47620120	2
7	Con Rod	47620140	2
8	Liner	47620110	2
9	Retaining Ring	47580130	2
10	Piston Pin	47380300	2
11	Circlip	47380080	4
12	Piston Ring	47160230	2
13	Stud	47550270	2
14	Diaphragm Disc	47620090	2
15	Nut M10	47550131	2
16	Nut M10	47180150	2
18	'O' Ring 25.80 x 3.53 dia	47620030	4
19	Valve Assembly	471049050	4
20	Circlip	47111120	2
21	End Plate	47620020	1
22	'O' Ring 40.95 x 2.62 dia	47620210	1
23	Circlip	47620291	1
24	Bearing	47620191	-
25	Nut M6	47390440	2
26	Washer	47550331	2
28	'O' Ring 17.5 x 2 dia	47180101	2
29	Oil Reservoir	47550030	1
30	'O' Ring 26.65 x 2.62 dia	47550040	1
31	Oil Reservoir Cap	47550050	1
32	Spacer	47620160	1
33	Bearing	47550060	1
34	Oil Seal	47620130	1
35	Circlip	47620330	1
36	Shaft (PTO Driven Versions)	47620170	1
37	Manifold	47620150	1
38	Nipple 1" BSP	47550340	1
39	'O' Ring 23.81 x 2.62 dia	47550350	2
40	Hosetail Nut 1" BSP	47550242	1

Item	Part No	Qty	
1	37mm 90° Hosetail Liner	47550370	1
42	'O' Ring 20.63 x 2.62 dia	47390060	4
44	Bolt M8 x 40	47621780	8
45	Air Receiver Head	47620230	1
46	Air Receiver Diaphragm	47550190	1
47	Air Receiver Base	47620180	1
49	Washer	47650542	1
50	Valve	47180020	1
51	'O' Ring 29 x 3 dia	47390290	1
52	Pin	47620680	1
53	Shaft 20 dia x 48	47620172	1
53	Shaft 3/4" x 36	47620174	1
55	Flange	47620661	1
56	Washer	47620670	1
57	Bolt M8 x 25	47180370	1
58	Oil Seal	47620630	1
59	Spacer	47620021	1
60	Diaphragm Support	47650660	1
61	Rubber Cap	47650670	1
62	Hoseclip	47650690	1
63	Guard	47540660	1
64	Allen Head Bolt M10 x 16	47820670	4
65	Bearing	47620190	1
66	Plug 3/8" BSP	47130171	1
67	'O' Ring 14.1 x 1.78 dia	47740290	1
68	Spacer	47620930	1
69	Spacer	47620940	1
70	Bearing	47380230	1
71	Bolt M8 x 75	47380210	2
72	Nut M8	47380240	2
73	Foot Bracket	47380200	2
74	Nut M8	47390270	2
75	Elbow	47450145	1
76	1/2" BSP(F) x 13mm Cap & Liner	47110130	1
77	Diaphragm Bolt	47580360	2
78	Diaphragm Disc	471040180	2

Part No. **47KIT030** Winter Overhaul Kit
(Contains Diaphragms, Valve Assemblies and Valve 'O' Rings).

Diaphragm Pumps Spares

Hypro AR 40 / AR 60 / AR 70



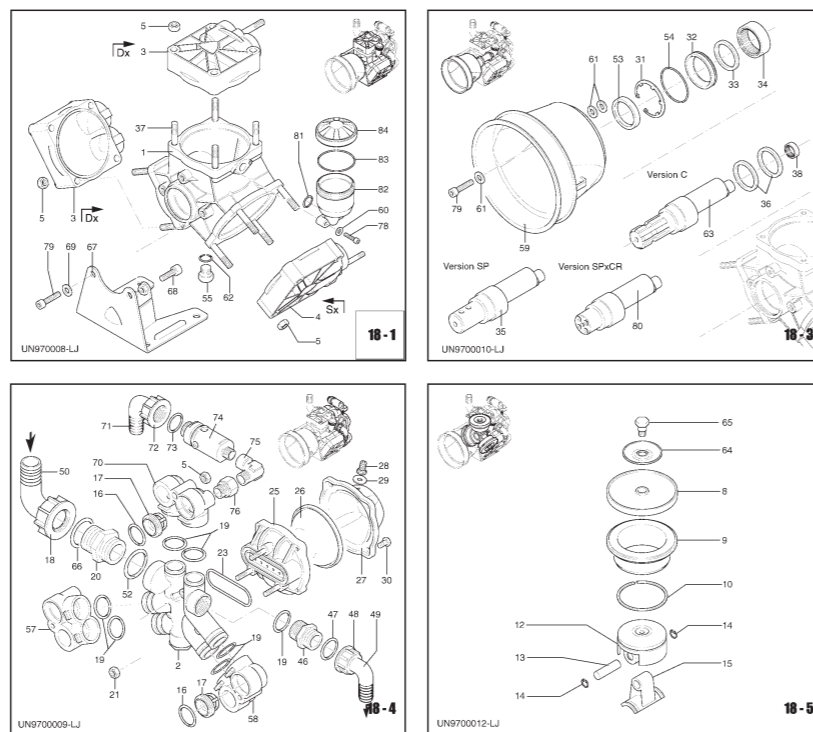
Item	Part No	Qty	
1	1/4" BSP (F) Cap (AR70)	47580870	1
1	1/4" x 90° Hosetail (AR70)	47550040	1
Hosetail Options AR60/AR60/AR70			
	1" x 90° Hosetail (Liner)	47580040	
	Liner	47550380	
	1" BSP(F) Cap	47550242	
	1" BSP Nipple	47550340	
1	Body	47550010	1
2	Cylinder Head	47550101	1
3	Cylinder Head	47550102	1
4	Inlet Outlet Attachment	47550150	1
5	Manifold c/w Air Receiver Base	47550180	1
6	Diaphragm Retaining Plate	47580090	2
7	Diaphragm	47550085	2
8	Piston Sleeve	47550110	2
9	Piston	47550120	1
10	'O' Ring	47320030	4
11	Valve	47759051	4
12	Stud 10MA x 72	47550020	2
13	Nut 10MA	47180150	8
14	Diaphragm Retaining Nut	47550131	2
15	1" BSP Hosetail Nut	47550242	2
16	25mm 90° Hosetail	47550370	1
17	19mm 90° Hosetail	47550380	1
18	'O' Ring	47550350	2
19	Hexagonal Nipple	47550340	2
20	Nut 0MA	47180150	2
21	Stud 10MA x 65	47550200	8
22	Torque Plate	47380271	1
23	Needle Bearing	47550310	1
24	'O' Ring	47390290	4
25	Stud 6MA x 34	47550330	2
26	Air Valve	47550300	1
27	'O' Ring	47650542	1
28	Bolt 8MA x 20	47550680	4
29	Air Receiver Head	47550230	1
29a	Air Receiver Head (AR70)	47550233	1
30	Air Diaphragm	47550190	1
32	Oil Reservoir Cap	47550050	1
32a	Oil Reservoir Cap (AR70)	47550057	1
33	'O' Ring	47550040	1
34	Oil Reservoir	47550030	1

Item	Part No	Qty	
35	Nut 6MA H6	47390440	2
36	'O' Ring	47180101	1
37	Pin	47550290	2
38	Nut 12MA	47320130	1
39	Washer	47320131	1
40	Clamp	47500160	1
41	Washer	47500171	1
42	Bolt 12MA x 75	47320170	1
43	Q.R. Coupling Body	47550250	1
44	Circlip 62mm	47200391	1
45	Seal Seat	47550470	1
46	Washer	47550070	1
47	Needle Bearing	47550060	1
48	Shaft	47550170	1
49	S Hook	47320650	4
50	Torque Chain	47320640	1
51	Nut 10MA	47180150	2
52	Spring Washer	47200231	2
53	Washer	47320620	1
54	Eye Bolt	47320630	1
55	Stud 10MA x 34	47580020	2
56	Torque Chain	47320640	1
57	Needle Bearing	47550280	2
58	Piston Cylinder	47550140	1
59	Stud	47550270	2
60	Shaft Extension	47550260	1
61	Pump Base	47580080	1
62	Bolt 10MA x 30	47180160	1
63	Nut 10MA H10	47580190	1
64	Bush	47550160	1
65	Wing Nut	47320610	1
66	Seal, Oil	47550491	1
67	Seal	47550480	1
68	3/8" BSP Plug	47030171	1
69	Splined Shaft	47550173	1
70	PTO Guard	47540660	1
71	Diaphragm Bolt	47580360	2
72	Diaphragm Disc	47580370	2

Part No. **47KIT060** Winter Overhaul Kit
(Contains Diaphragms, Valve Assemblies and Valve 'O' Rings)

Diaphragm Pumps Spares

**Hypro AR 100
AR 115
AR 120
AR 135**



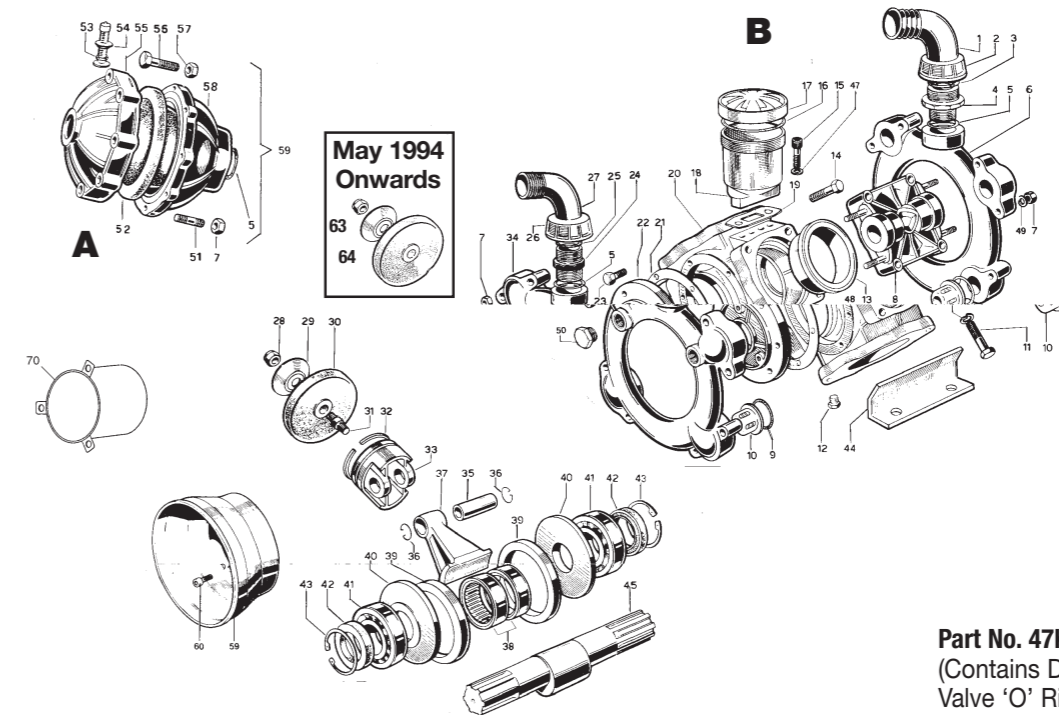
Part no 47KIT00 winter overhaul kit (contains diaphragms, valves & O-rings).

Item	Part No	Qty
1 Pump body	47580011	1
2 Manifold line	47580150	1
3 Right head	47550101	1
4 Left head	47550102	1
5 Nut	47180152	15
8 Diaphragm, rubber	47550080	3
8 Diaphragm, Viton	47550084	3
8 Diaphragm, Desmopan	47550085	3
8 Diaphragm, H.P.D.S	47550086	3
9 Sleeve, AR115/AR100	47580110	3
9 Sleeve, AR135/AR120	47580350	3
10 Piston ring	47500260	3
12 Piston	47580120	3
13 Pin	47380300	3
14 Pin ring	47380080	6
15 Connecting rod	47580140	3
16 O-Ring	47320030	6
17 Complete valve	47759051	6
18 Ring nut	47540541	1
19 O-Ring	47390291	7
20 Threaded adapter	47540530	1
21 Nut	47390271	3
23 Gasket	47580050	1
25 Lower air chamber	47580180	1
26 Semi air chamber, rubber	47550190	1
26 Semi air chamber, Saturflon	47550191	1
26 Semi air chamber, Viton	47550192	1
27 Upper air chamber	47550233	1
28 Air-valve	47550300	1
29 Gasket	47650542	1
30 Bolt	47550680	4
31 Circlip	47200391	1
32 Gasket retainer	47550470	1
33 Spacer ring	47550070	1
34 Roller bushing	47580440	1
35 "SP" shaft, AR115/AR100	47550170	1
35 "SP" shaft, AR135/AR120	47580380	1
36 Con rod ring	47580130	2
37 Stud	47550200	4
38 Roller bushing	47550310	1

Item	Part No	Qty
46 Threaded adapter	47550340	1
47 O-Ring	47550350	1
48 Ring nut	47550242	1
49 Elbow	47550370	1
50 Elbow	47540550	1
52 O-Ring	47520310	1
53 Seal ring	47550491	1
54 O-Ring	47650920	1
55 Plug	47880530	1
57 Right manifold coupling	47580071	1
58 Left manifold coupling	47580072	1
59 Cardan protection	47540660	1
60 Washer	47550332	2
61 Washer	47320621	5
62 O-Ring	47740290	1
63 "C" shaft, AR115/AR100	47550173	1
63 "C" shaft, AR135/AR120	47580330	1
64 Plate	47580370	3
65 Diaphragm pin	47580360	3
66 O-Ring, AR100	47390291	1
66 O-Ring, AR120	47250130	1
67 Base	47580080	1
68 Bolt	47540301	1
69 Washer	47200233	2
70 Right man.coup+outlet	47580400	1
71 Elbow	47550460	1
72 Ring nut	47550450	1
73 O-Ring, Viton	47880831	1
74 Safety valve	471609000	1
75 Elbow	47881560	1
76 Extension	47580421	1
78 Bolt	47850851	2
79 Bolt	47620472	3
80 "SPxCR" shaft, AR115/AR100	47550175	1
80 "SPxCR" shaft, AR135/AR120	47580430	1
81 O-Ring	47390180	1
82 Oil tank	471040310	1
83 O-Ring	47650920	1
84 Black oil tank cap, AR100/AR115/AR120	471040322	1
84 Red oil tank cap, AR135	471040320	1

Diaphragm Pumps Spares

**Hypro AR 150
AR 160**



Part No. 47KIT150 Winter Overhaul Kit (Contains Diaphragms, Valve Assemblies and Valve 'O' Rings).

Item	Part No	Qty
Hosetail Options AR150/AR160		
30mm x 90° Hosetail (Liner)	47580040	
11/4" BSP(F) Cap	47580060	
11/4" BSP Nipple	47580030	
50mm x 90° Hosetail (Liner)	47760020	
+ 2" BSP(F) Cap	47760040	
+ 11/4" x 2" BSP Nipple	47760030	
35mm x 90° Hosetail (Liner)	47392130	
+ 11/2" BSP(F) Cap	47540540	
+ 11/4" x 11/2" BSP Nipple	47540530	
A		
5 'O' Ring	47390290	1
7 Nut 8MA	47380240	2
51 Stud 8MA x 40	47390670	2
52 Diaphragm	47550190	1
53 'O' Ring	47650542	1
54 Air Valve	47180020	1
55 Upper Air Chamber	47620230	1
55a Upper Air Chamber Black (AR160)	47620232	1
56 Screw 8MA x 45	47380250	8
57 Nut 8MA	47390270	6
58 Lower Air Chamber	47680180	1
59 Air Receiver Assembly	37ARARA	1
B		
1 50mm 90° Hosetail	47760020	1
2 Hosetail Nut	47760040	1
3 'O' Ring	47620210	1
4 Hexagon Nipple	47760030	1
5 'O' Ring	47250310	2
6 Inlet Manifold	47760220	1
7 Nut 8MA	47380240	16
8 Cylinder Head	47750100	4
9 'O' Ring	47680070	8
10 Valve	47759051	8
11 Bolt 12MA x 70	47750070	4
12 3/8" BSP Plug	47030171	1
13 Piston Sleeve	47750110	4
14 Bolt 12MA x 65	47750060	12
15 Screw	47680350	2
16 'O' Ring	47580230	1

Item	Part No	Qty
17 Oil Reservoir Cap	47750050	1
17a Oil Reservoir Cap Black (AR160)	47750053	1
18 Oil Reservoir	47750030	1
19 Gasket	47750040	1
20 Body	47760010	1
21 Body Gasket	47680250	1
22 Body Plate	47680020	1
23 Bolt 10MA x 25	47160670	6
24 Hexagon Nipple	47540530	1
25 'O' Ring	47250310	1
26 Hosetail Nut	47540540	1
27 35mm 90° Hosetail	47392130	1
28 Diaphragm Retaining Nut	47550131	4
29 Diaphragm Retaining Plate	47580090	4
30 Diaphragm	47550085	4
31 Stud	47550270	4
32 Piston Ring	47500260	4
33 Piston	47750120	4
34 Outlet Manifold	47760070	1
35 Piston Spindle 48 x 8	47160700	4
36 Circlip 18mm	47160691	8
37 Con Rod (price each)	47760140	1
38 Needle Bearing	47750090	2
39 Spacer Ring	47750130	2
40 Spacer	47540040	2
41 Bearing	47230350	2
42 Seal	47230380	2
43 Circlip 62mm	47200390	2
44 Pump Base	47760200	2
45 Shaft	47750170	1
47 Washer	47380241	2
48 Washer	47250141	4
49 Washer	47390311	16
50 Bung	47330170	2
59 PTO Guard	47540660	1
60 Screw 8MA x 15	47180431	3
61 Enclosed Guard	01RD0001	1
62 Bolt	2258M12P	3
63 Diaphragm Bolt	47580360	4
64 Diaphragm Disc	47580370	4

Diaphragm Pumps Spares

Hypro AR 230 AR 250 AR 280

2003 Onwards

53a Elbow (AR215) **47750850**
 53b Elbow (AR250) **47750850**
 53c Elbow (AR280) **47750720**
 6a Suction Manifold **47750860**

May 1994 Onwards

72
73

Item	Part No	Qty
Hosetail Options AR230/250/AR280		
35mm x 90° Hosetail (Liner)	47392130	
+ 1½" BSP(F) Cap	47540540	
+ 1¼" x 1½" BSP Nipple	47540530	
50mm x 90° Hosetail (Liner)	47760020	
+ 2" BSP(F) Cap	47760040	
+ 1¼" x 2" BSP Nipple	47760030	
OR 1¼" x 2" BSP Nipple (for inlet only)	47750330	
30mm x 90° Hosetail (Liner)	47580040	
+ 1½" BSP(F) Cap	47580060	
+ 1¼" BSP Nipple	47580030	
50mm Hosetail	47750160	1
60mm Hosetail	47750150	1
'O' Ring	47030281	1
Bolt 12MA x 70	47750070	4
Pump Base	47750200	1
'O' Ring	47620210	1
Inlet Manifold	47750220	1
Nut 8MA	47380240	24
Cylinder Head	47750100	6
'O' Ring	47680070	12
Valve	47759051	12
Circlip 62mm	47200390	2
Shaft (AR250BP)	47750170	1
Shaft (AR230BP)	47750171	1
Shaft (AR280BP)	47750174	1
Piston Sleeve (AR230BP/AR250BP)	47750110	6
Piston Sleeve (AR280BP)	47750115	6
Bolt 12MA x 65	47750060	20
Bolt 8MA x 35	47680350	2
'O' Ring	47580230	1
Cap (AR180)	47750051	1
Oil Reservoir Cap (AR280/AR230)	47750050	1
Oil Reservoir Cap (AR250)	47750053	1
Oil Reservoir	47750030	1
Gasket	47750040	1
Body	47750010	1
Body Gasket	47680250	1
Body Plate	47680020	1
Bolt 10MA x 25	47160670	6
Hexagon Nipple	47540530	1
'O' Ring	47250310	1
Hosetail Nut	47540540	1
35mm 90° Hosetail	47392130	1
Diaphragm Retaining Nut	47550131	6
Diaphragm Retaining Plate	47580090	6
Diaphragm - Desmopan	47550085	6
Stud	47550270	6
Piston Ring	47500260	6

Item	Part No	Qty
33 Piston	47750120	6
34 Outlet Manifold	47750420	1
35 Piston Spindle 48 x 18	47160700	6
36 Circlip 18mm	47160691	12
37 Con Rod	47750140	6
38 Needle Bearing	47750090	2
39 Spacer Ring	47750130	2
40 Spacer	47540040	2
41 Bearing	47230350	2
42 Seal	47230380	2
43 Nut 8MA	47380241	2
45 Washer	47250141	4
46 Washer	47390311	24
47 Screw	47180430	3
48 PTO Guard	47540660	1
50 Oil Outlet	47750230	1
51 Bung	47030171	1
52 Screw	47540290	2
53 Hosetail	47760020	1
54 Hosetail Nut	47760040	1
55 Nipple	47750330	1
56 'O' Ring	47030281	1
57 Upper Air Chamber (AR230)	47620230	1
57a Upper Air Chamber Black (AR250BP/AR280BP)	47620232	1
58 Diaphragm	47550190	1
59 Lower Air Chamber	47680180	1
60 Screw Bolt 8MA 45	47380250	8
61 Nut 8MA H65	47390270	8
62 Stud	47390670	2
63 'O' Ring	47390290	1
64 Elbow	47760300	1
65 Bung	47330170	2
66 Nut	47760310	1
67 'O' Ring	47650540	1
68 Air Valve	47180020	1
69 Air Receiver Assembly	37ARARA1	1
70 Enclosed Guard	01RD0001	1
71 Bolt	2258M12P	3
72 Diaphragm Bolt	47580360	6
73 Diaphragm Disc	47580370	6
74 Elbow	47750370	1
75 'O' Ring	47820510	1
76 Plug ¼" BSP	47880581	1

Part No. 47KIT230 Winter Overhaul Kit
 (Contains Diaphragms, Valve Assemblies and Valve 'O' Rings).

Diaphragm Pumps Spares

UN990005-LJ **2-1**

UN990006-LJ **2-2**

UN990007-LJ **2-3**

UN990008-LJ **2-4**

UN990009-LJ **2-5**

UN990010-LJ **2-6**

Diaphragm Pumps Spares

Hypro AR 370 BP Twin

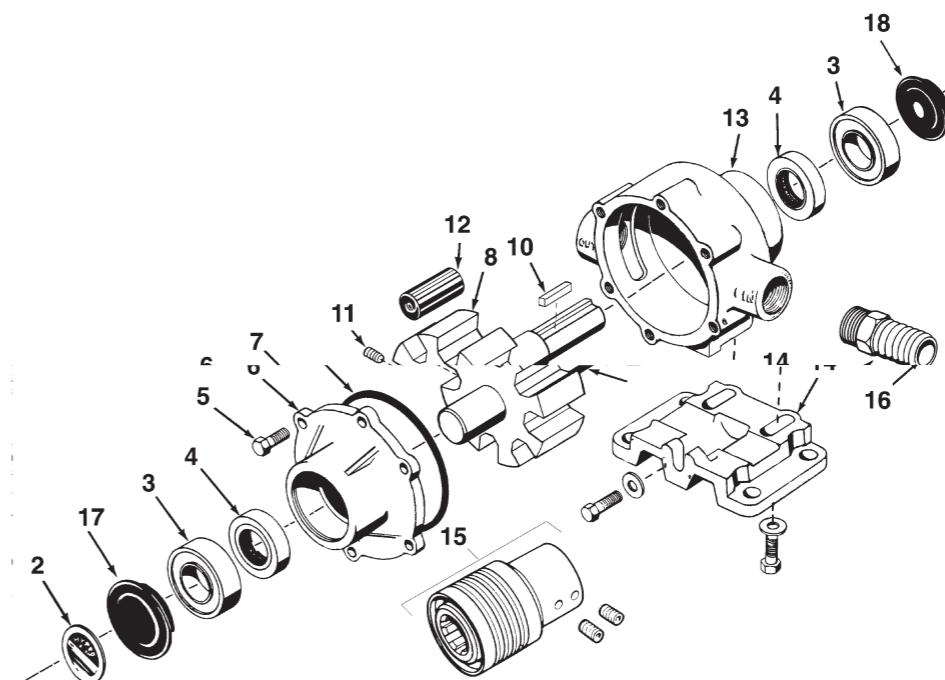
Item	Part No	Qty
1 Elbow	47392130	2
2 Ring Nut	47540540	2
4 Threaded Adapter	47540530	2
5 O-Ring	47250310	4
7 Nut	47380242	36
8 Head	47750100	8
9 O-Ring	47680070	16
10 Complete Valve	47759051	16
12 Plug	47880530	2
13 Sleeve	47750115	8
14 Bolt	47750061	16
15 Bolt	47680350	4
16 O-Ring	47104006	2
17 Red Oil Tank Cap	47750050	2
18 Oil Tank	47750030	2
19 Gasket	47750040	2
20 Pump Body	47760010	2
21 Gasket	47680250	2
22 Shaft Support	47680020	2
23 Bolt	47160672	12
27 Hose Tail	47391930	2
30 Diaphragm, rubber	47550080	8
Diaphragm, viton	47550084	8
Diaphragm, desmopan	47550085	8
Diaphragm, HPDS	47550086	8
32 Piston Ring	47500260	8
33 Piston	47750122	8
34 Manifold	47760070	2
35 Pin	47160700	8
36 Pin Ring	47160691	16
37 Connecting Rod	47760140	8
38 Roller Bearing	47750090	4
39 Con Rod Ring	47750130	4
40 Spacer Washer	47540040	4
41 Bearing	47230350	4
42 Seal Ring	47160740	4
43 Circlip	47200390	4

Hypro AR 370 BP Twin

Item	Part No	Qty
46 O-Ring	47390290	2
47 Washer	47380243	36
50 Plug	47330173	2
52 Semi Air Chamber	47550190	2
Semi Air Chamber	47550191	2
Semi Air Chamber	47550192	2
53 Gasket	47650542	2
54 Air Valve	47180020	2
55 Upper Air Valve	47620232	12
56 Bolt	47621781	6
58 Lower Air Chamber	47680180	2
59 Cardan Protection	47540660	2
60 Bolt	47850251	6
61 O-Ring	47180101	2
62 Complete Air Chamber	471532	2
65 O-Ring	47740290	2
66 Diaphragm Pin	47580360	8
67 Elbow	47881560	2
68 Safety Valve	471609000	2
69 O-Ring	47880331	2
70 Ring Nut	47550450	2
71 Elbow	47550460	2
72 Washer	47390314	6
73 Plate	47580370	8
74 O-Ring	47750740	2
75 Ring Nut	47750710	1
76 Elbow	47750720	1
77 Hose Tail	47750730	1
78 Base	47760170	2
79 Spacer	47760180	2
80 Bolt	47760190	16
81 Crankshaft	47760131	2
82 Circlip	47760260	1
83 Joint	4776151	1
84 Pin	47760161	1
85 O-Ring	47620030	2
86 Suction Manifold	47760120	1

Roller Vane Pumps Spares

Hypro Roller Vane 7560



Item	Part No	Qty
2 Name plate (specify pump model #)	426031-0258	1
3 Sealed ball bearing	422008-0001	2
4 Viton seal (standard)	422112-0003	2
4A Buna-N-seal (optional)	422112-0001	2
4B Leather seal (optional)	422103-0002	2
5 Bolt	422210-0004	6
6 Endplate (cast-iron) with seal	420204-7500C	1
6A Endplate (Ni-resist) with seal	420204-7500N	1
6B Endplate (silver cast) with seal	420204-7500X	1
7 O-ring gasket for endplate	421720-0014	1
8 Super roller (standard)	421005-0004	8
8A Polypropylene roller (optional)	421002-0004	8
8B Buna-N roller (optional)	421052-0004	8
8C Teflon roller (optional)	421055-0004	8
9 Rotor (cast iron) with shaft	420308-7560C	1
9A Rotor (Ni-resist) with shaft	420308-7560N	1
9B Rotor (silver cast) with shaft	420308-7560X	1
10 Shaft only	420500-7400	1
10A Set screw	422230-0003	1
10B Set screw (silver cast only)	422230-0007	1
11 Key	421610-0005	1
12 Body (cast iron) with seal	420104-7500C	1
12A Body (Ni-resist) with seal	420104-7500N	1
12B Body (silver cast) with seal	420104-7500X	1
13 1" Hose barb	422404-0052	1
14 Base kit (includes (1) base, (3) bolts and (3) washers)	423420-0003	1
15 Quick coupler adapter for 1-3/8" 6-spline 540 rpm PTO	421321-0007	1
17 1-3/8" 6-spline 540 rpm PTO adapter includes kit no. 423410-0003	421320-0033	1 kit
18 Set screw kit	423410-0003	1 kit
23 1-3/8" 6-spline 540 rpm PTO adapter (forged steel) includes kit no. 423410-0031	421320-0066	1 kit
24 Set screw kit	423410-0003	1 kit
25 Bearing cover	422300-0020	1
26 Shaft bearing cover	422300-0022	1
15-24 not shown on diagram		

Repair kits for 7560:

423430-0343 (universal)

consists of: (8) ref. 8 super rollers
(2) ref. 7 O-rings
(4) viton seals of two different sizes

423430-0376

consists of: (8) ref. 8 super rollers
(1) ref. 7 O-ring gasket.

423430-0377

consists of: (8) ref. 8 super rollers
(1) ref. 7 O-ring gasket
(2) ref. 4 buna-N seals.

423430-0381

consists of: (8) ref. 8 super rollers
(1) ref. 7 O-ring gasket
(2) ref. 4 viton seals

423430-0154

consists of: (8) ref. 8 polypropylene rollers
(1) ref. 7 O-ring gasket.

423430-0167

consists of: (8) ref. 8 polypropylene rollers
(1) ref. 7 O-ring gasket
(2) ref.4 viton seals.

Roller Vane Pumps

Hypro 7560 Series

An 8 roller vane pump - PTO driven (maximum flow 45 litres/min @ 540 rpm, maximum pressure 20 bar)

Specification

Pump Body, End Plate & Rotor: Cast Iron

Drive Shaft: Stainless Steel.

Rollers: Super nylon 12 as standard (Poly, Buna-N, Teflon available).

Couplers: All models supplied with 1 1/8" PTO quick release couplers.

Seals: Viton standard (Buna-N & Leather available).

Rotation: Standard rotation is anti-clockwise. Clockwise rotation is an option if specified.

REV/MIN: 540 RPM recommended for continuous duty.

NOTE: Pump should never run dry. Care should be taken to ensure that the PTO shaft is fitted with a protective cover to comply with safety regulations.



NOW FITTED WITH SUPER ROTORS. GIVES UP TO TWICE THE PUMP LIFE COMPARED WITH METALLIC ROTORS!

Weight Part No.

Hypro 7560 c/w PTO quick release coupler & 3/4" ports

6.0Kg **397560**

RPM	0 Bar		3.4 Bar		6.9 Bar		10.3 Bar		13.8 Bar		17.2 Bar		20.7 Bar	
	L/min	HP	L/min	HP	L/min	HP	L/min	HP	L/min	HP	L/min	HP	L/min	HP
540	45.4	0.33	42.0	0.74	39.0	1.25	36.0	1.77	32.5	2.29	29.5	2.78	26.9	3.3
800	69.3	0.89	66.2	1.26	64.4	1.95	60.0	2.65	58.7	3.4	54.9	4.2	51.9	4.9
1000	85.2	1.56	83.3	1.78	80.6	2.53	78.0	3.5	75.7	4.2	71.5	5.3	68.1	6.1

Roller Vane Pumps

Hypro 1700 Series

A 5 roller vane pump - PTO driven (maximum flow 95 litres/min @ 540 rpm, maximum pressure 14 bar)

Specification

Pump Body, End Plate & Rotor: Cast Iron.

Drive Shaft: Stainless Steel.

Rollers: Super nylon 12 as standard (Poly & Teflon available).

Couplers: All models supplied with 1 1/8" PTO quick release couplers.

Seals: Viton standard (Buna-N & Leather available).

Rotation: Standard rotation is anti-clockwise. Clockwise rotation is an option if specified.

REV/MIN: 540 RPM recommended for continuous duty.

NOTE: Pump should never run dry. Care should be taken to ensure that the PTO shaft is fitted with a protective cover to comply with safety regulations.



NOW FITTED WITH SUPER ROTORS. GIVES UP TO TWICE THE PUMP LIFE COMPARED WITH METALLIC ROTORS!

Weight Part No.

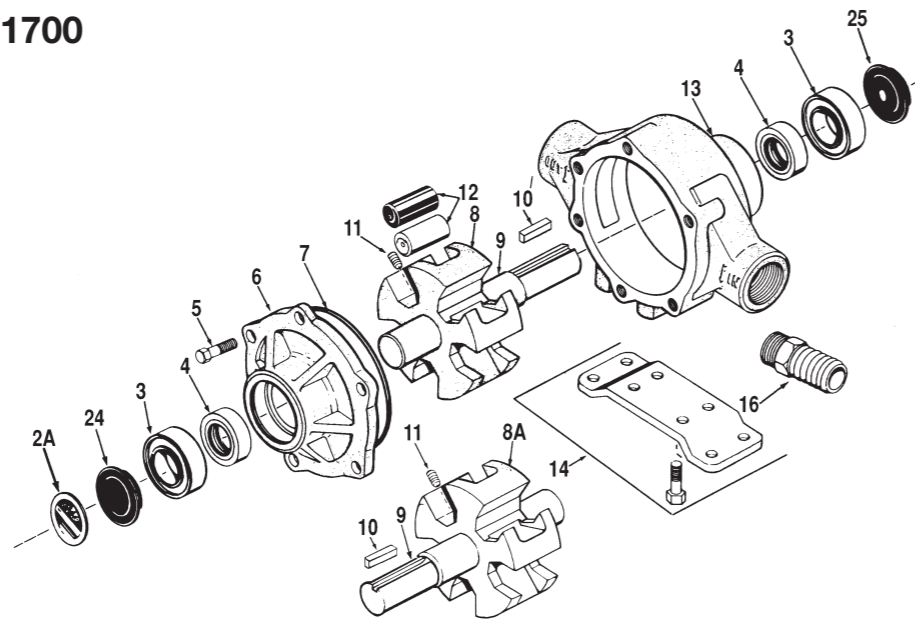
Hypro 1700 c/w PTO quick release coupler 1" ports

9.0Kg **391700**

RPM	0 Bar		3.4 Bar		6.9 Bar		10.3 Bar		13.8 Bar	
	L/min	HP	L/min	HP	L/min	HP	L/min	HP	L/min	HP
540	94.6	0.27	79.5	1.18	71.9	2.13	64.3	2.89	56.8	3.85
600	106.0	0.34	92.7	1.39	83.3	2.36	75.7	3.34	68.1	4.39
1000	170.0	1.42	163.0	3.00	155.0	4.67	148.0	6.07	---	---

Roller Vane Pumps Spares

Hypro Roller Vane 1700



Item	Part No	Qty	
2	Name plate (specify pump model #)	426031-0258	1
3	Sealed ball bearing	422008-0001	2
4	Viton seal (standard)	422112-0003	2
4A	Buna-N-seal (optional)	422112-0001	2
4B	Leather seal (optional)	422103-0002	2
5	Bolt	422210-0005	6
6	Endplate (cast-iron) with seal	420200-1700C	1
6A	Endplate (Ni-resist) with seal	420200-1700N	1
6B	Endplate (silver cast) with seal	420200-1700X	1
7	O-ring gasket for endplate	421720-0099	1
8	Rotor (cast iron) with shaft (std. Rotation)	420300-1700C	1
8A	Rotor (Ni-resist) with shaft (std. Rotation)	420300-1700N	1
8B	Rotor (silver cast) with shaft (std. Rotation)	420300-1700X	1
8A	Rotor (cast iron) w/shaft (reverse rotation)	420301-1700C	1
8B	Rotor (Ni-resist) w/shaft (reverse rotation)	420301-1700N	1
8C	Rotor (silver cast) w/shaft (reverse rotation)	420301-1700X	1
9	Shaft only	420500-1502	1
10	Key	421610-0005	1
11	Set screw	422230-0018	1
11A	Set screw (silver cast only)	422230-0034	1
12	Super roller (standard)	421005-0005	5
12A	Polypropylene roller (optional)	421002-0005	5
12B	Teflon roller (optional)	421055-0005	5
13	Body (cast iron) with seal	420100-1700C	1
13A	Body (Ni-resist) with seal	420100-1700N	1
13B	Body (silver cast) with seal	420100-1700X	1
14	kitBase kit (includes: (1) base (4) bolts)	423420-0010	1
15	Quick coupler adapter for 1-3/8" 6-spline 540 rpm PTO	421321-0007	1
16	1-1/4" Hose barb	422404-0191	1
17	1-3/8" 6-spline 540 rpm PTO adapter Includes kit no. 423410-0003	421320-0033	1
18	Set screw kit	423410-0003	1
20	1-3/8" 6-spline 540 rpm PTO adapter Includes kit no. 423410-0003	421320-0038	1
21	Set screw kit	423410-0022	1
23	1-3/8" 6-spline 540 rpm PTO adapter (forged steel) Includes kit no. 423410-0031	421320-0066	1
23A	Set screw kit	423410-0031	1
24	Bearing shaft	422300-0020	1
25	Shaft bearing cover	422300-0022	1
15-23	not shown on diagram		

Repair kits for 7560:

423430-0437

consists of: (5) ref. 12 super rollers
(1) ref. 7 O-ring gasket
(2) ref. 4 viton seals.

423430-0383

consists of: (6) ref. 12 super rollers
(2) ref. 7 O-ring gasket
(2) ref. 4 viton seals.

423430-0160

consists of: (5) ref. 12 polypropylene rollers
(1) ref. 7 O-ring gasket
(2) ref. 4 buna-N seals.

423430-0159

consists of: (5) ref. 12 polypropylene rollers
(1) ref. 7 O-ring gasket

423430-0161

consists of: (5) ref. 12 polypropylene rollers
(1) ref. 7 O-ring gasket
(2) ref. 4 viton seals

423430-0407

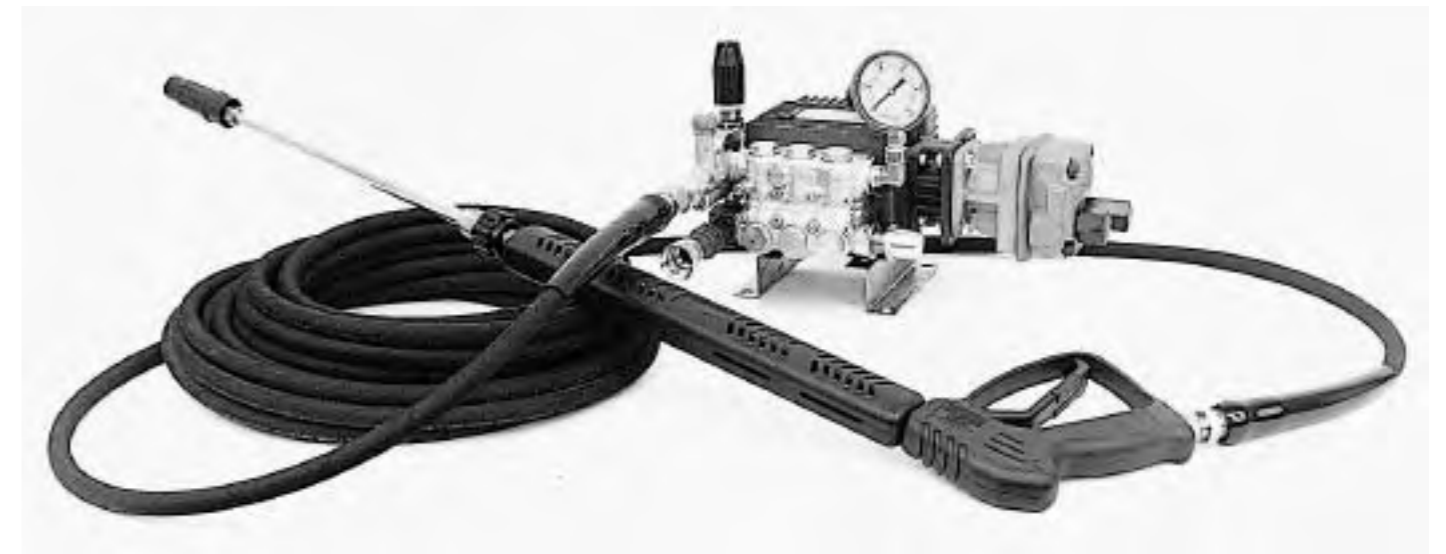
consists of: (5) ref. 12 super rollers
(1) ref. 7 O-ring gasket
(2) ref. 4 viton seals
(2) ref. 3 sealed ball bearings

Hydraulically-Driven Pressure Wash Down Kit

Specifications	
Triplex plunger pump flow:	11 L/min at 100 bar
Unloader maximum pressure:	100 bar
Water inlet:	3/4" garden hose
Water outlet:	3/8" quick disconnect
Hydraulic motor requirements:	30 L/min @ 131 bar
Motor inlet and outlet:	1/2" NPT (F)
Pressure wash hose:	3/8" I.D., 50' length, 3000 psi rating
Trigger gun assembly:	200 bar rating; insulated, 32" wand, Hi-Lo adjustable spray pattern nozzle
Thermal relief:	145°F
Shipping weight:	18 kg

The Groundwater directives of January 1999 do not affect farmers who dispose of pesticide washings (internal & external) onto approved crops. The easiest way to comply is to wash the sprayer down 'in field'. Specify the Lurmark wash down kit when ordering your new sprayer or 'retrofit' for reliable and efficient high-pressure performance.

These units are compatible with equipment that has sufficient hydraulic supply. Their smooth operating triplex plunger pumps feature a hydraulic gerotor motor with double-lip Teflon shaft seals, adjustable unloader, gauge and quick disconnect. Several units come with a 50 ft. pressure wash hose, a trigger gun with an insulated wand with a Hi-Lo adjustable nozzle. Includes an adjustable chemical injector and thermal relief valve.



Specifications are based on a hydraulic system using Mobil DTE-26 hydraulic oil at 140° F temperature. Hydraulic motor requirements will vary with different oil and system temperature. Maximum oil temperature is 160° F.

Model comes as a complete unit.

Note: Unit requires some assembly by the user.

Part No 381804C