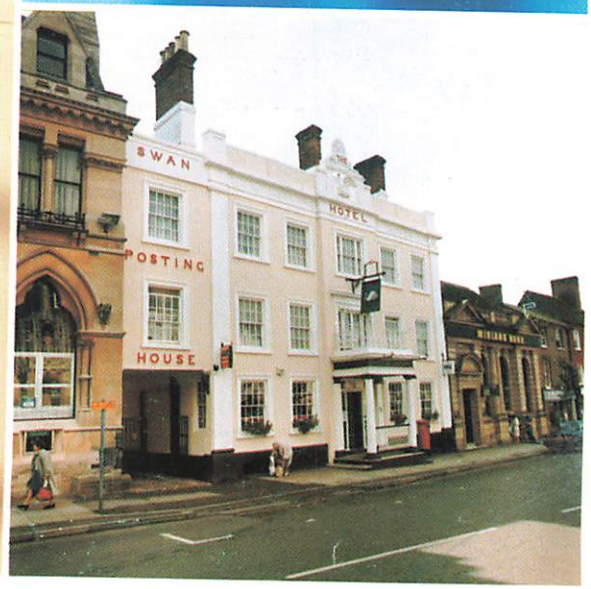
UP/UPS
GLANDLESS IN-LINE CIRCULATORS

For hot water circulation in light commercial heating applications.

GRUNDFOS®

THE INSTALLER'S BEST CHOICE FOR NEW OR REPLACEMENT HEATING CIRCULATORS

* GLANDLESS HEATING CIRCULATORS FOR PIPELINE MOUNTING.
* STAINLESS STEEL COMPONENTS FOR HIGH EFFICIENCY AND RESISTANCE TO CORROSION.
* VARIABLE DUTY.
* FLOWS UP TO 2.6 LITRES/SEC FOR HEATING DUTIES UP TO 400,000 BTUS/HR.
* FRICTIONAL RESISTANCES UP TO 70kN/m^2.
* ALL PUMPS SUPPLIED WITH FITTINGS.
* PUMP HOUSING FLANGED TO BS4504 1969 TABLE 6/11 ON UP(D)/UPS(D) 42 MODELS.
* CHOICE OF 1" OR 1¼" BSPF UNION FITTINGS ON UPS 26 MODELS.
* FIVE SINGLE AND TWO TWIN HEAD 1 PHASE MODELS.
* TWO SINGLE AND TWO TWIN HEAD 3 PHASE MODELS.
* MAXIMUM SYSTEM PRESSURES OF 6 BARS, 4 BARS FOR UPS/UP 42 WITH 2" FLANGES.
* WATER TEMPERATURES UP TO 110°C.
* FLAP VALVE FITTED AS STANDARD ON TWIN HEAD MODELS.



VERSATILE, ENERGY EFFICIENT RANGE
The new range of GRUNDFOS Light Commercial Circulators now provide the installer with a more versatile energy efficient range of pumps whilst retaining the capability to cater for heating duties up to 400,000 btus/hr.

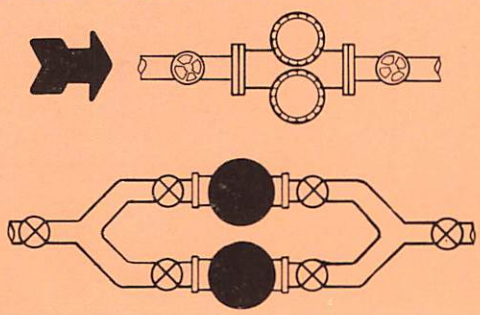
IDEAL FOR NEW OR REPLACEMENT WORK
Designed for quick and neat fitting, the range covers pipe sizes of 1″, 1¼″, 1½″ and 2″ and is completely interchangeable with previous models, making replacement really simple.

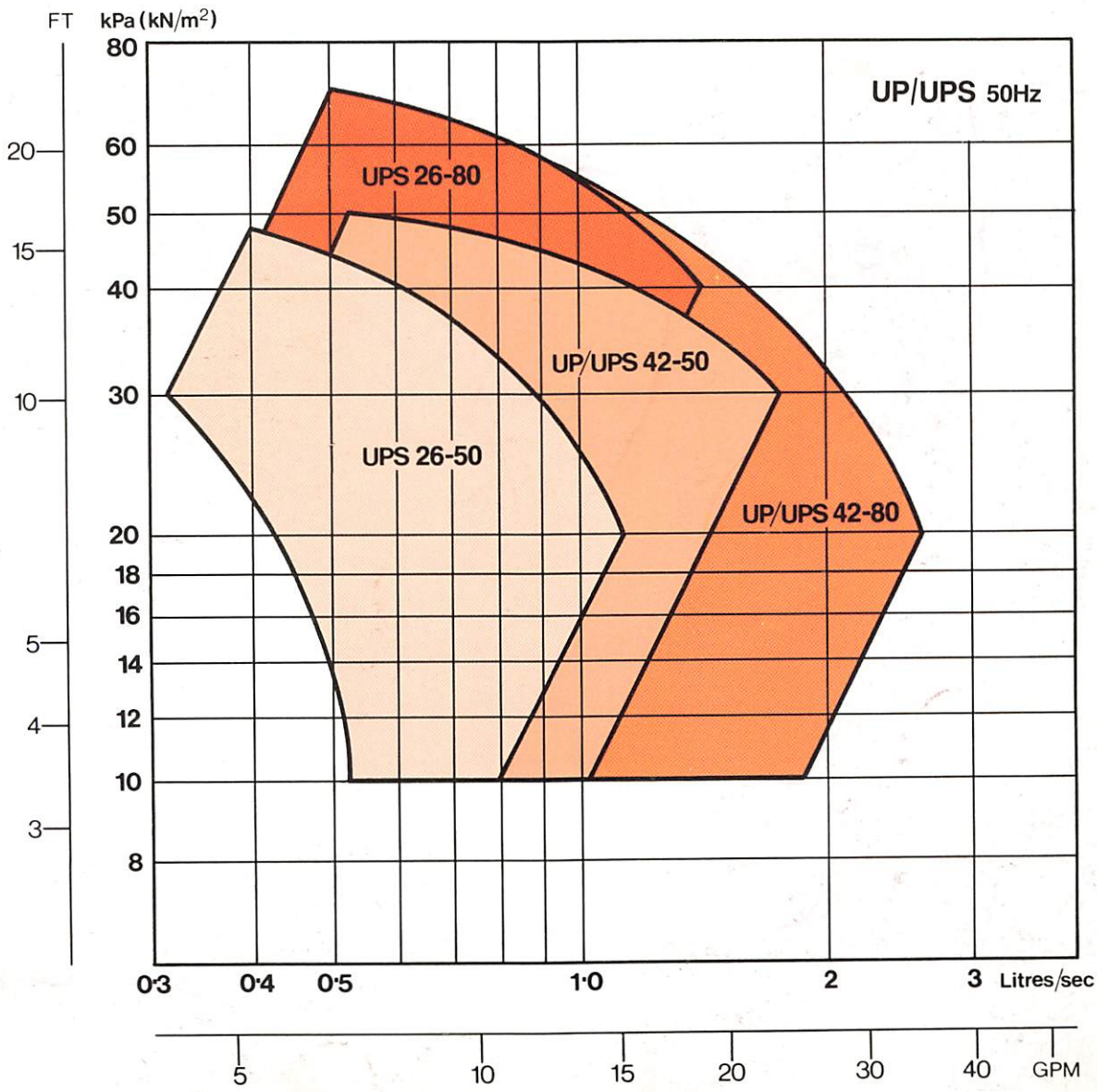
COMPREHENSIVE PERFORMANCE RANGE
The Light Commercial range consists of seven single head and four twin head models, designed to cater for the majority of heating requirements in the Light Commercial market place.

BUILT FOR LONG LIFE
Like all GRUNDFOS pumps, these models incorporate precision built components for maximum efficiency and sustained performance over many years operation. Components like fabricated stainless steel impellers and rotor cans for resistance to corrosion and smooth operation, together with water lubricated hard wearing ceramics for pump bearings.
Add to this our reputation for first class after sales service, and you can see why GRUNDFOS is the installer's number one choice in circulators.

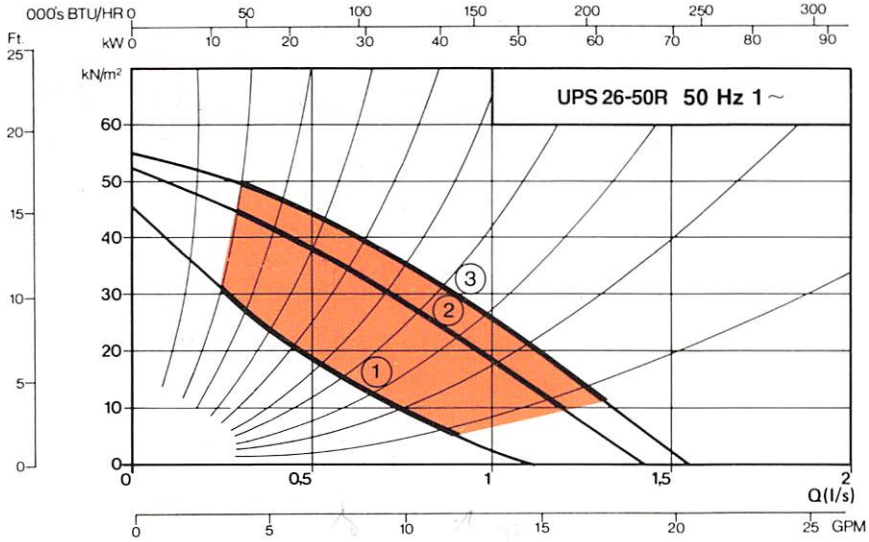
GRUNDFOS TWIN HEAD PUMPS — THE SPACE SAVERS

Grundfos Twin Head pumps provide a neat, compact and space saving installation where duty and standby operation is required, while only taking up the identical flange to flange space of its single head counterpart. A built-in non-return valve in the pump discharge port prevents reverse circulation through the stationary pump and obviates the need for manual valve opening or closing. When the duty pump is switched off and the standby pump is brought into use, the non-return valve will automatically change its position.
This design eliminates unnecessary isolating and non-return valves, yet still enables pump head replacement to be carried out in a matter of minutes without serious interruption to the operation of the heating system. Blanking flanges can be supplied for this purpose at a small extra cost.





1 × 240V 50Hz MODELS

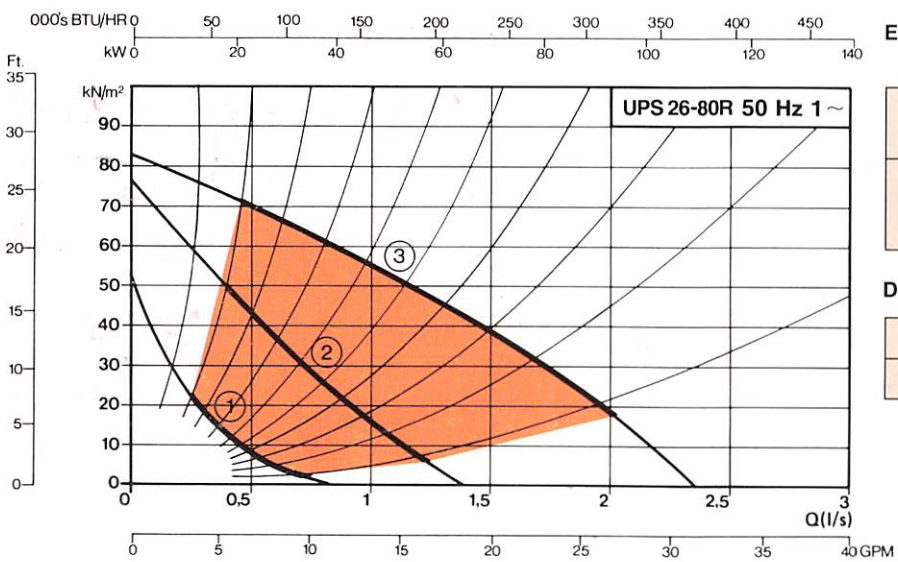


ELECTRICAL DATA

SPEED	RPM	INPUT POWER WATTS	FULL LOAD CURRENT AMPS 1 × 240 VOLT	CAPACITOR RATING
3	2750	115	0.48	3μF
2	2500	100	0.44	3μF
1	1900	85	0.37	3μF

DIMENSIONS AND WEIGHTS

NET WEIGHT KG	GROSS WEIGHT KG	SHIPPING VOLUME M³
4.2	4.5	0.0079

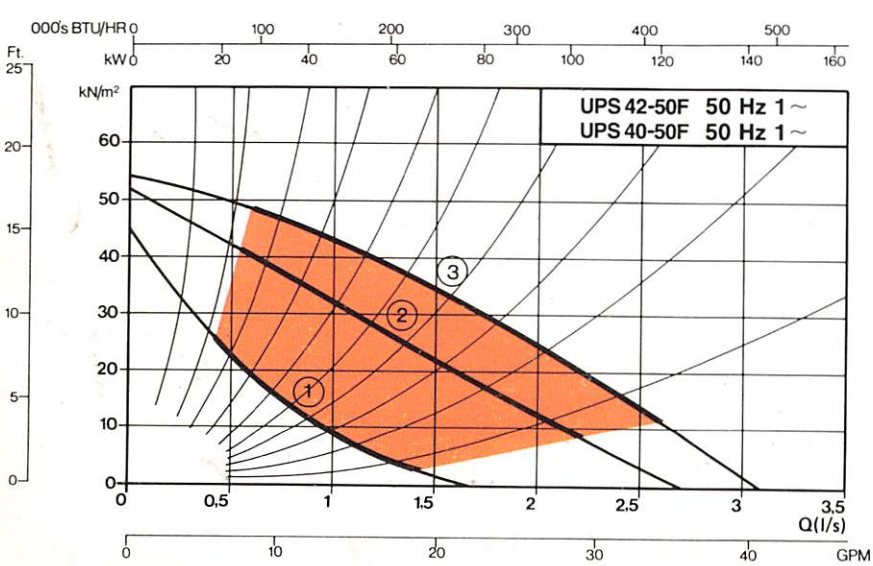


ELECTRICAL DATA

SPEED	RPM	INPUT POWER WATTS	FULL LOAD CURRENT AMPS 1 × 240 VOLT	CAPACITOR RATING
3	2450	245	1.03	5μF
2	1650	210	0.91	5μF
1	1050	140	0.63	5μF

DIMENSIONS AND WEIGHTS

NET WEIGHT KG	GROSS WEIGHT KG	SHIPPING VOLUME M³
4.2	4.5	0.0079



ELECTRICAL DATA

SPEED	RPM	INPUT POWER WATTS	FULL LOAD CURRENT AMPS 1 × 240 VOLT	CAPACITOR RATING
3	2400	140	0.62	3μF
2	1650	125	0.57	3μF
1	1050	80	0.39	3μF

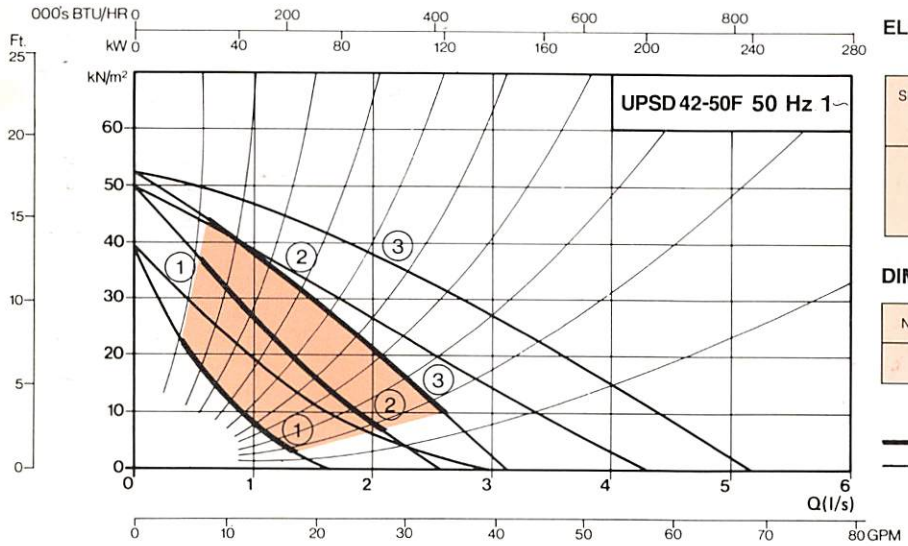
DIMENSIONS AND WEIGHTS UPS 40 — 50F

NET WEIGHT KG	GROSS WEIGHT KG	SHIPPING VOLUME M³
5.8	6.1	0.0096

DIMENSIONS AND WEIGHTS UPS 42 — 50F

NET WEIGHT KG	GROSS WEIGHT KG	SHIPPING VOLUME M³
7.2	7.6	0.0122

1 × 240V 50Hz MODELS



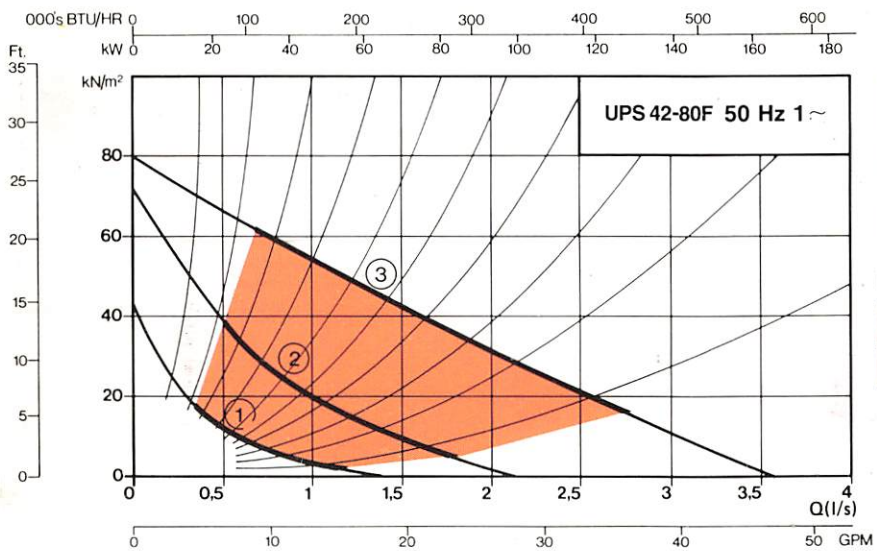
ELECTRICAL DATA

SPEED	RPM	INPUT POWER WATTS	FULL LOAD CURRENT AMPS 1 × 240 VOLT	CAPACITOR RATING
3	2400	140	0.62	3µF
2	1650	125	0.57	3µF
1	1050	80	0.39	3µF

DIMENSIONS AND WEIGHTS

NET WEIGHT KG	GROSS WEIGHT KG	SHIPPING VOLUME M³
12.5	13.4	0.0131

—— One pump head operating
—— Both pump heads operating

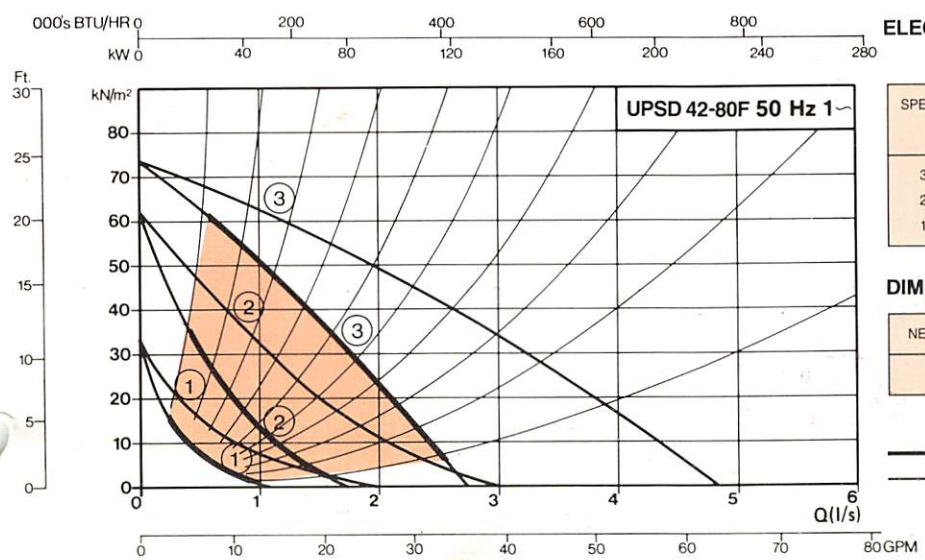


ELECTRICAL DATA

SPEED	RPM	INPUT POWER WATTS	FULL LOAD CURRENT AMPS 1 × 240 VOLT	CAPACITOR RATING
3	2450	250	1.0	5µF
2	1700	215	0.91	5µF
1	1100	145	0.62	5µF

DIMENSIONS AND WEIGHTS

NET WEIGHT KG	GROSS WEIGHT KG	SHIPPING VOLUME M³
7.2	7.6	0.0122



ELECTRICAL DATA

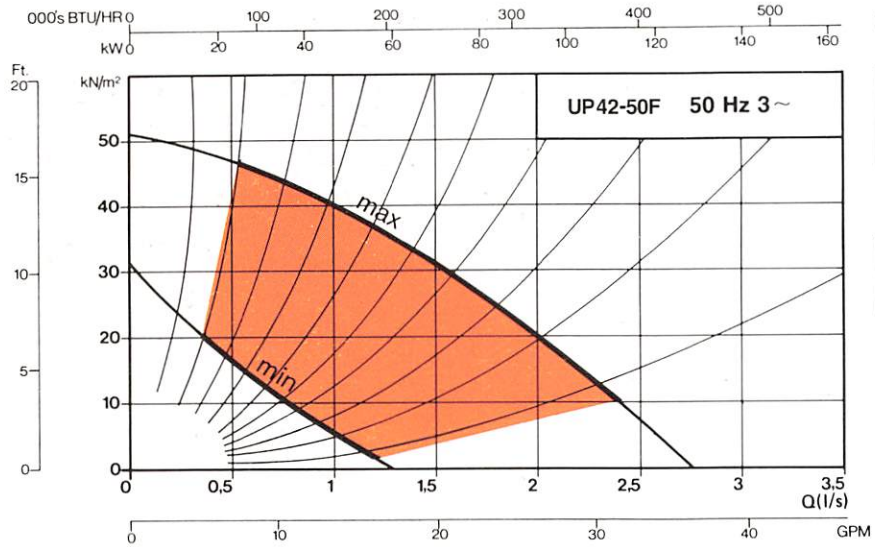
SPEED	RPM	INPUT POWER WATTS	FULL LOAD CURRENT AMPS 1 × 240 VOLT	CAPACITOR RATING
3	2450	250	1.0	5µF
2	1700	215	0.91	5µF
1	1100	145	0.62	5µF

DIMENSIONS AND WEIGHTS

NET WEIGHT KG	GROSS WEIGHT KG	SHIPPING VOLUME M³
12.5	13.0	0.0131

—— One pump head operating
—— Both pump heads operating

3 × 415V 50Hz MODELS

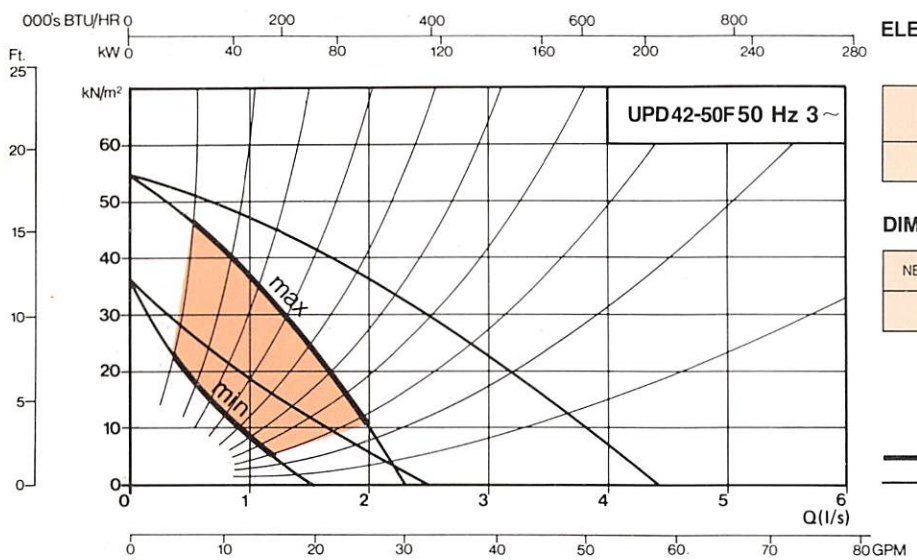


ELECTRICAL DATA

RPM	INPUT POWER WATTS	FULL LOAD CURRENT AMPS 3 × 415 VOLT
2700	160	0.29

DIMENSIONS AND WEIGHTS

NET WEIGHT KG	GROSS WEIGHT KG	SHIPPING VOLUME M³
7.4	7.8	0.0122



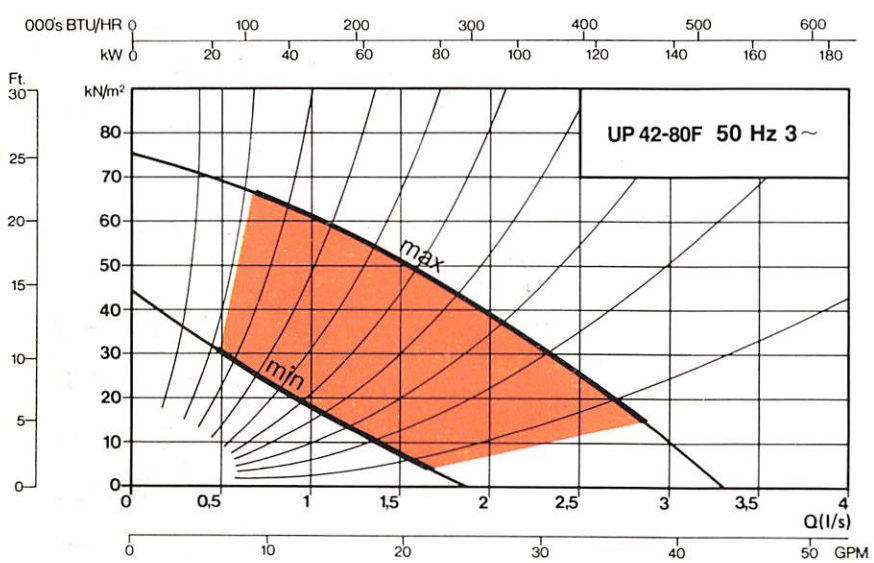
ELECTRICAL DATA

RPM	INPUT POWER WATTS	FULL LOAD CURRENT AMPS 3 × 415 VOLT
2700	160	0.29

DIMENSIONS AND WEIGHTS

NET WEIGHT KG	GROSS WEIGHT KG	SHIPPING VOLUME M³
13.0	13.5	0.0131

One pump head operating
Both pump heads operating



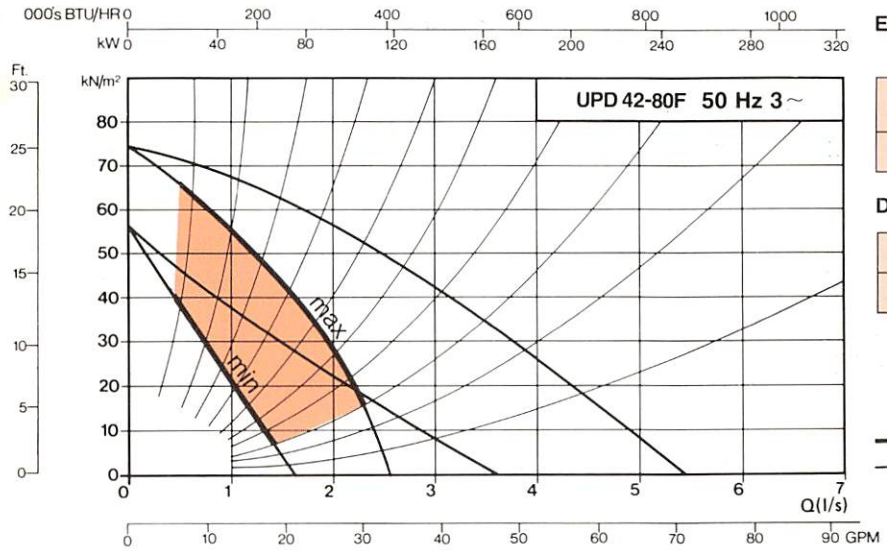
ELECTRICAL DATA

RPM	INPUT POWER WATTS	FULL LOAD CURRENT AMPS 3 × 415 VOLT
2650	280	0.50

DIMENSIONS AND WEIGHTS

NET WEIGHT KG	GROSS WEIGHT KG	SHIPPING VOLUME M³
7.4	7.8	0.0122

3 × 415V 50Hz MODELS



ELECTRICAL DATA

RPM	INPUT POWER WATTS	FULL LOAD CURRENT AMPS 3 × 415 VOLT
2650	280	0.50

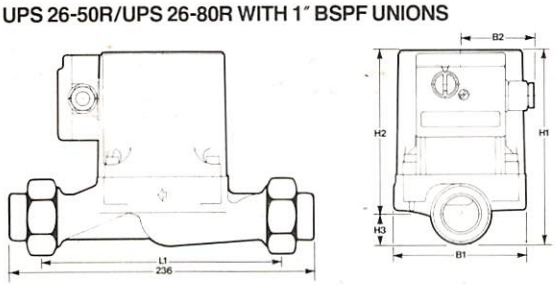
DIMENSIONS AND WEIGHTS

NET WEIGHT KG	GROSS WEIGHT KG	SHIPPING VOLUME M³
13.0	13.5	0.0131

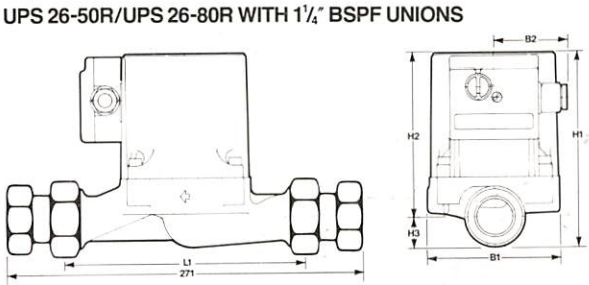
One pump head operating
Both pump heads operating

DIMENSIONS

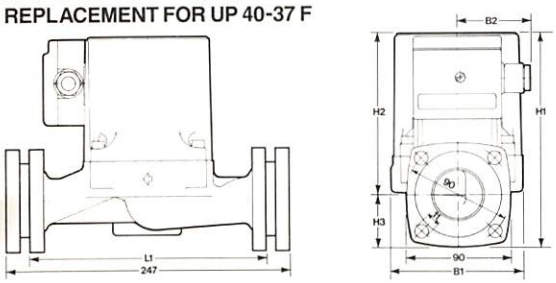
UPS 26-50R/UPS 26-80R WITH 1″ BSPF UNIONS



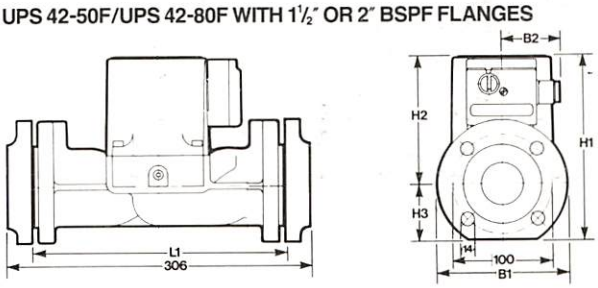
UPS 26-50R/UPS 26-80R WITH 1¼″ BSPF UNIONS



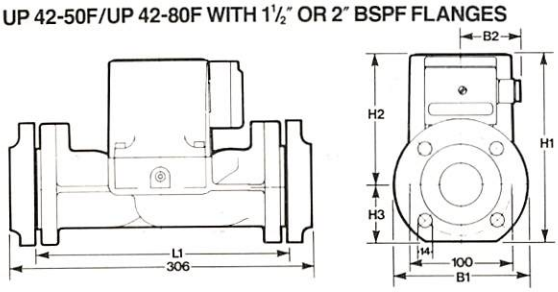
UPS 40-50F WITH 1¼″, 1½″ OR 2″ BSPF SQUARE FLANGES REPLACEMENT FOR UP 40-37 F



UPS 42-50F/UPS 42-80F WITH 1½″ OR 2″ BSPF FLANGES

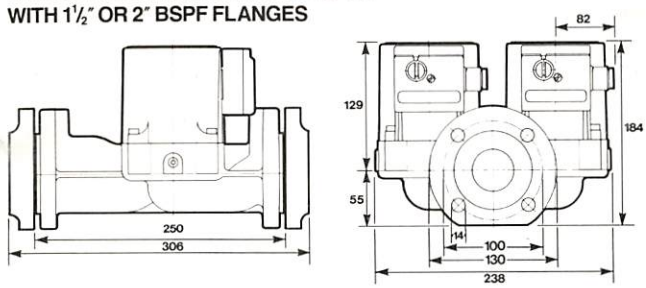


UP 42-50F/UP 42-80F WITH 1½″ OR 2″ BSPF FLANGES

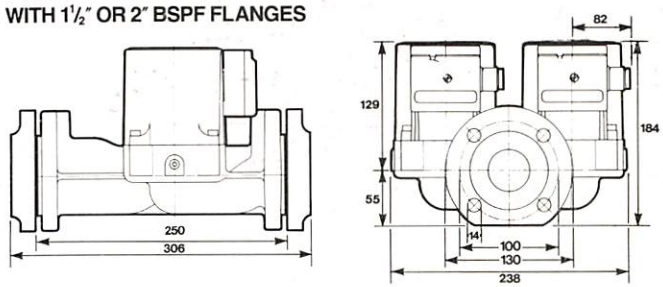


PUMP TYPE	L1 mm	B1 mm	B2 mm	H1 mm	H2 mm	H3 mm
UPS 26-50R	180	104	82	153	129	24
UPS 26-80R	180	104	82	155	131	24
UPS 40-50F	200	111	82	174	129	45
UPS 42-50F	250	111	82	184	129	55
UPS 42-80F	250	111	82	186	131	55
UP 42-50F	250	104	79	184	129	55
UP 42-80F	250	104	79	184	129	55

TWIN HEAD UPSD 42-50F/UPSD 42-80F WITH 1½″ OR 2″ BSPF FLANGES



TWIN HEAD UPD 42-50F/UPD 42-80F WITH 1½″ OR 2″ BSPF FLANGES



TECHNICAL DATA UP/UPS

MOTOR DATA

Standard voltages available are 240v 1ph 50Hz and 415v 3ph 50Hz.

Motor enclosure class is: IP42 single phase, IP40 three phase

Winding insulation is to Class F on all models.

Cable connection: A Pg compression gland is fitted as standard on all terminal boxes to enable direct cable connection without the need for additional fittings.

Single phase motors : Pg11 compression gland
Three phase motors : Pg9 compression gland

MOTOR PROTECTION

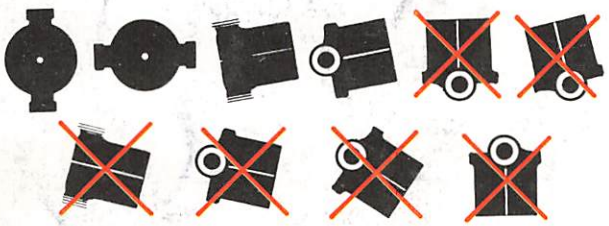
All single phase models have internal motor protection by either thermal overload or impedance protection. Therefore no external motor protection is required for single phase motors.

Three phase models must be connected to an approved starter incorporating low voltage release, overload protection and a single phasing prevention device.

INSTALLATION

All Light Commercial pumps must be installed with the pump shaft horizontal or slightly above, as this improves air purging and reduces the load on the pump thrust bearing.

The pumps must never be installed with the shaft in a vertical plane, nor, when in a horizontal plane, must the pump shaft fall below the horizontal, even by a few degrees, as this may cause premature wear of the top bearing and shaft.



OPERATING

All models are suitable for a maximum system pressure of 6 bars (85 psi) except UP/UPS 42 pumps fitted with 2" B.S.P.F. counter flanges which have a 4 bar rating.

Water temperature range +15°C * to 110°C

* To avoid condensation in the motor windings the pumped liquid temperature must always be higher than the ambient temperature.

Maximum Permissible Operating Temperatures

System Water Temp °C	110	105	100	90	80
Air Temp °C	40	50	60	70	80

The minimum inlet pressure at 90°C water temperature should be 2.5m to avoid cavitation and to ensure quiet running for all models.

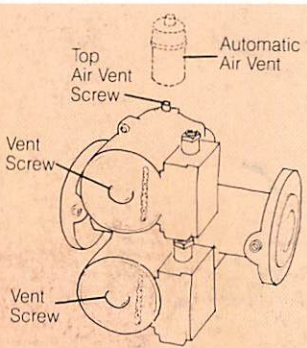
FLOW ADJUSTMENT

On single phase models flow can be adjusted by changing the speed to one of three settings by means of a selectric switch.

Three phase models are variable flow pumps on a fixed speed setting. On the bottom of the pump case, there is a mechanical flow adjuster with five settings.

TWIN HEAD MODELS

For Twin Head models installed in horizontal pipes, it is recommended that an automatic air vent (⅛" BSP) is fitted as shown.



SITING THE PUMP

1. To avoid sediment, do not fit the pump in lowest point of system.
2. Fit isolating valves on either side of the pump.
3. To prevent noise, avoid sharp bends either side of the pump.
4. Position the motor away from heat sources and allow access for removing pump head from base.
5. Always try to ensure that the terminal box is not adjacent to hot surfaces. On UPS models the selectric switch should be readily available for adjustment of pump speed.
6. In non-pressurised systems, position the pump so that it neither pumps over into feed/expansion tank, nor sucks air down the vent pipe. Generally this means fitting the pump in the flow pipe, with the vent on the inlet side of the pump. Pumps fitted in vertical pipe should pump upwards or if pumping downwards an effective vent pipe must be fitted at the highest point before the pump.
7. In pressurised systems, the pump can be fitted in flow or return pipes as required.
8. In systems where all the flow can be stopped while the pump is still running, e.g. systems fitted with thermostatic valves, a by-pass should be fitted between flow and return lines to ensure water flow through the pump at all times (approx. 7.5% of maximum pump capacity).
9. Ensure the pump is not stressed by the pipework and that the pipework is properly supported either side of the pump.

SUCTION/DISCHARGE PIPE CONNECTIONS

MODEL	PUMP CONNECTION	PIPE CONNECTION
UPS 26-50R	1½" BSPM	1" or 1¼" BSPF Unions
UPS 26-80R	1½" BSPM	1" or 1¼" BSPF Unions
UPS 40-50F	4 Bolt Square Flange	1¼" BSPF Counter Flange 1½" BSPF Counter Flange 2" BSPF Counter Flange
UP(D) UPS(D) 42-50F and 42-80F	Flange to BS4504 1969 table 6/11 N.B. 40mm	1½" BSPF Counter Flange to BS4504 1969 table 6/4.
		2" BSPF Counter Flange to same standard, bored & screwed to 2" BSPF but with a 4 bar rating

TYPE DESIGNATION

UPS D 26 — 50 R

- UP 2 pole single-speed circulator
- UPS 2 pole three-speed circulator
- Twin Pump
- Type Range
- Nominal closed valve head (kN/m²)
- Connection: R = Threaded Connection
  F = Flanged Connection

PUMP MATERIAL SPECIFICATION

Pump Base	:	Cast Iron	BS1452 Grade 180
Pump Head	:	Aluminium Alloy	
Shaft	:	Ceramic	
Impeller	:	Stainless Steel	BS1449 304 S15
Split Cone	:	Stainless Steel	BS1449 304 S15
Neck Ring	:	Stainless Steel	BS1449 304 S15
Rotor Can	:	Stainless Steel	BS1449 304 S15
Rotor Cladding	:	Stainless Steel	BS1449 304 S15
'O' Rings	:	EPDM Rubber	
Radial Bearing	:	Ceramic	
Axial Bearing	:	Carbon	

GRUNDFOS PUMPS LTD.
Head Office & Southern Area Sales Office: Grovebury Road, Leighton Buzzard, Beds. LU7 8TL. Tel: Leighton Buzzard (0525) 374876.
Telex: 825544. Facsimile: (0525) 383087.
Northern Area Sales Office: Gawsworth Court, Risley Road, Risley, Warrington, Cheshire WA3 6NJ. Tel: Padgate (0925) 813300. Telex: 628162.
South East Sales Office: Unit 13a, Dartford Trade Park, Powder Mill Lane, Dartford, Kent DA1 1NX. Tel: (0322) 92422.

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