C M process pump sizes

MILLIMETRES	INCHES
SINGLE STAGE	
Suction · discharge · impeller max. dia.	Discharge · suction · impeller max. dia.
50 — 40 — 200	1½ x 2 x 8
50 — 40 — 250	1½ x 2 x 10
80 — 40 — 320	1½ x 3 x 12½
80 — 50 — 200	2 x 3 x 8
80 — 50 — 250	2 x 3 x 10
80 — 50 — 320	2 x 3 x 12½
100 — 50 — 395	2 x 4 x 15½
100 — 80 — 200	3 x 4 x 8
100 — 80 — 250	3 x 4 x 10
100 — 80 — 320	3 x 4 x 12½
100 — 80 — 395	3 x 4 x 15½
150 — 100 — 200	4 x 6 x 8
150 — 100 — 250	4 x 6 x 10
150 — 100 — 320	4 x 6 x 12½
150 — 100 — 395	4 x 6 x 15½
200 — 150 — 280	6 x 8 x 11
200 — 150 — 330	6 x 8 x 13
250 — 200 — 405	8 x 10 x 16
TWO STAGE	
80 — 40 — 250	1½ x 3 x 10
80 — 50 — 295	2 x 3 x 11½
100 — 80 — 295	3 x 4 x 11½
100 — 50 — 330	2 x 4 x 13
150 — 100 — 345	4 x 6 x 13½

Installation and Service

One of the contributory factors to the world-wide success of Hayward Tyler is the exceptionally high standard of service that is part of every installation.

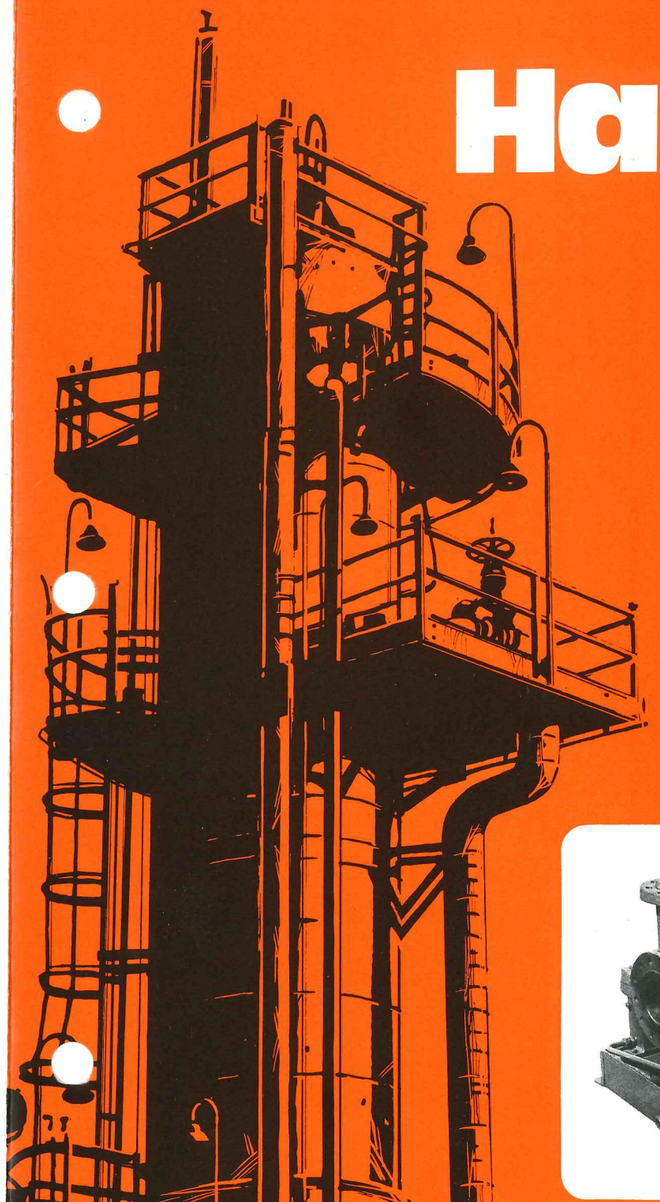
What does this service cover? Just about anything you can think of to do with our products. This means installation, commissioning, trouble shooting on site, reconditioning and repairs, spares, technical advice, testing facilities and many others. It can vary from advice on the telephone by a field service engineer to organising shipment of pumps back to our Works for reconditioning and testing under load conditions.

Every Hayward Tyler pump is designed to work with the minimum of maintenance. Occasionally however things do go wrong, but no matter how remote the locality, modern communications will bring a field service engineer within hours.

Hayward Tyler

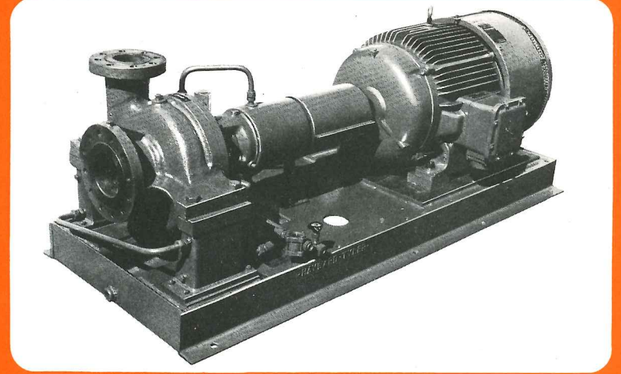
A Sterling Company

Hayward Tyler Limited
Process Industry Products
PO Box 2, Luton, LU1 3LW, England.
Telephone: Luton (0582) 31144 Telex: 82158 Tyler G



Hayward Tyler

CM RANGE
of process pumps



CM RANGE
of process pumps

The CM range of process pumps is a development of the well-established SM range, a product of proven design, which has been equal to the strenuous production demands of the process industries for more than 25 years. The centre-line mounted design of the CM range complies with all the main requirements of API 610 for pumps with mechanical seals, and can now be offered for applications where high integrity requirements exist.

Major areas of improvement in the CM range include a shorter and stiffer pump shaft which reduces the overall length of the pump and gives a more compact unit. The shafts are made of alloy steel or stainless steel as required, and are designed to operate at critical speeds well above the maximum operating speeds. The complete range is covered by two shaft assemblies for the single-stage pumps and two for the two-stage pumps, thus minimising spares requirements and easing maintenance. Each shaft is mounted in high capacity anti-friction bearings. Double angular contact bearings carry the hydraulic thrust from the pump end and roller radial bearings carry the side thrust loads, whilst allowing free axial movement of the shaft. The bearings are sealed against contamination and lubricated by oil distributed to the circulation galleries by a flinger. The flinger distributes oil over the entire internal surface of the bearing housing, thus maximising the area available for cooling. When required, the bearing housing can be fitted with a water cooling jacket to maintain oil temperatures within acceptable limits.

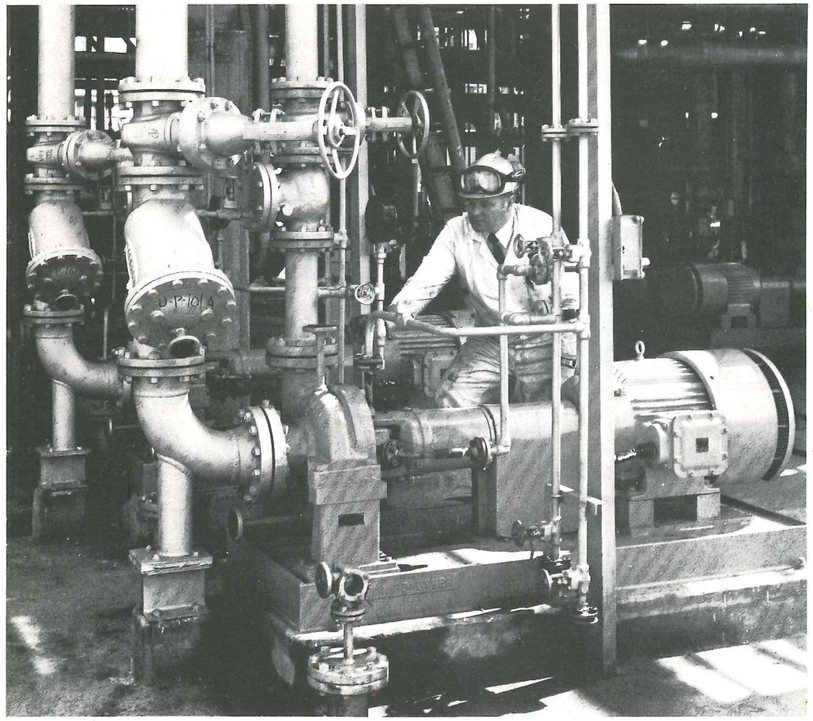
Various combinations of materials and branch configurations are available – end/top and top/top suction branches for the single-stage units and top/top or side/side suction branches for the two-stage units. The pump mounting pedestals can be water cooled when required to maintain alignment of the pumps when operating at high temperatures.

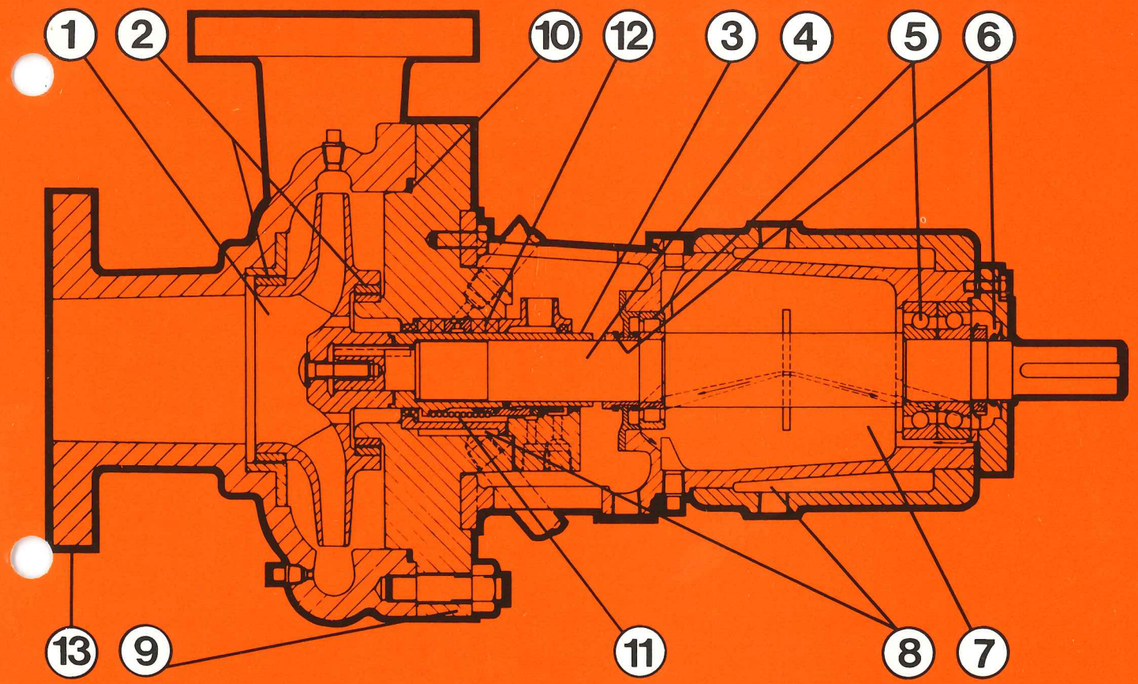
The shrouded impellers are designed for the best combination of efficiency and low NPSH requirements, and all are fitted with renewable wear rings.

The CM range is designed for use with mechanical seals and a wide selection can be accommodated. The seals can be single, double or tandem, balanced or unbalanced with all installations conforming to API 610. A packed gland can be supplied, comprising four rings of packing with lantern ring and gland plate. The optional quench feature on the gland incorporates a renewable throttle bush to restrict leakage. Water cooling can be provided for the stuffing box when required.

The back pull out construction, facilitated by the use of a spacer coupling between pump and driver, allows the removal of the rotating assembly without disturbing the suction or discharge pipe work.

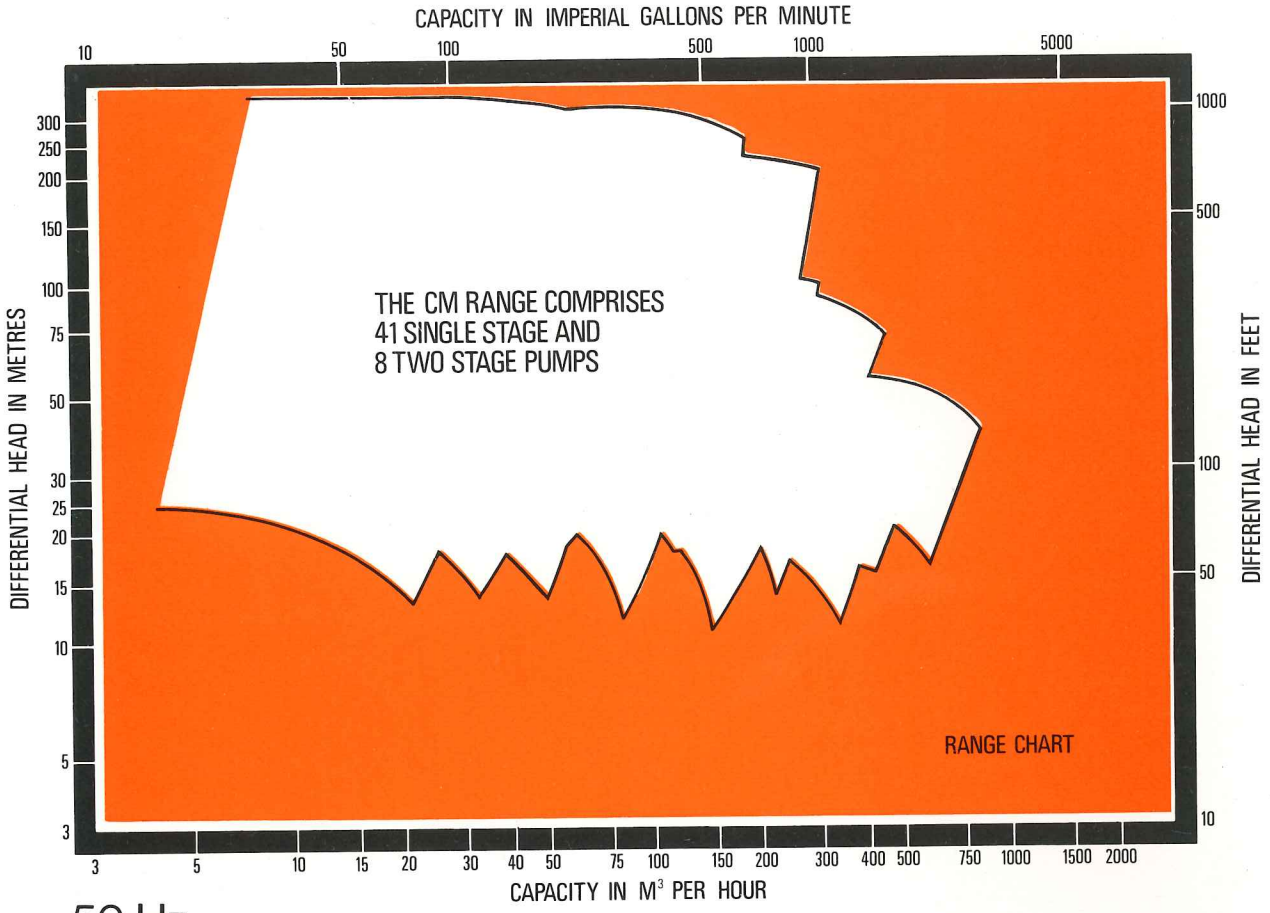
Pump and driver are mounted on a one piece fabricated steel base plate with drain rim or drip tray options.



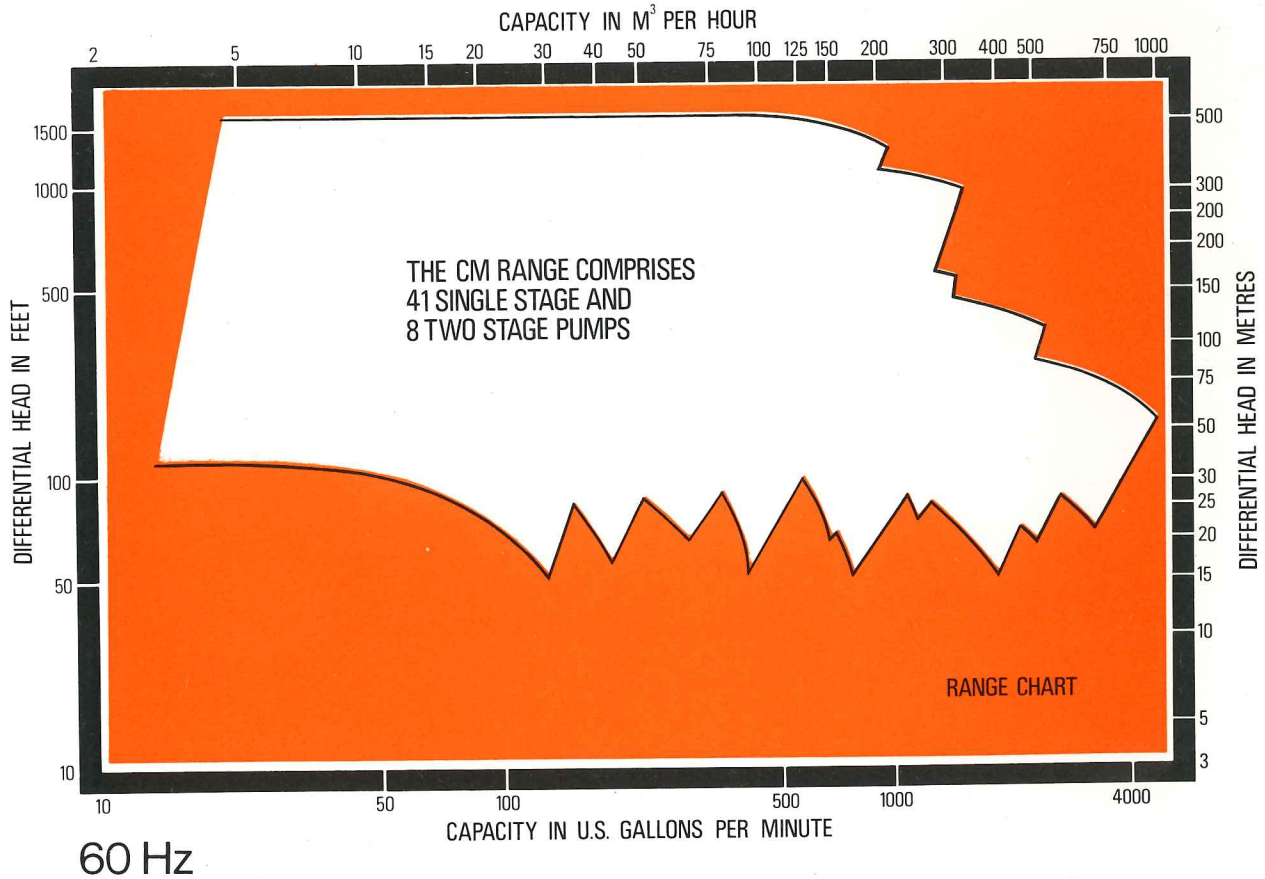


Single-Stage Pumps

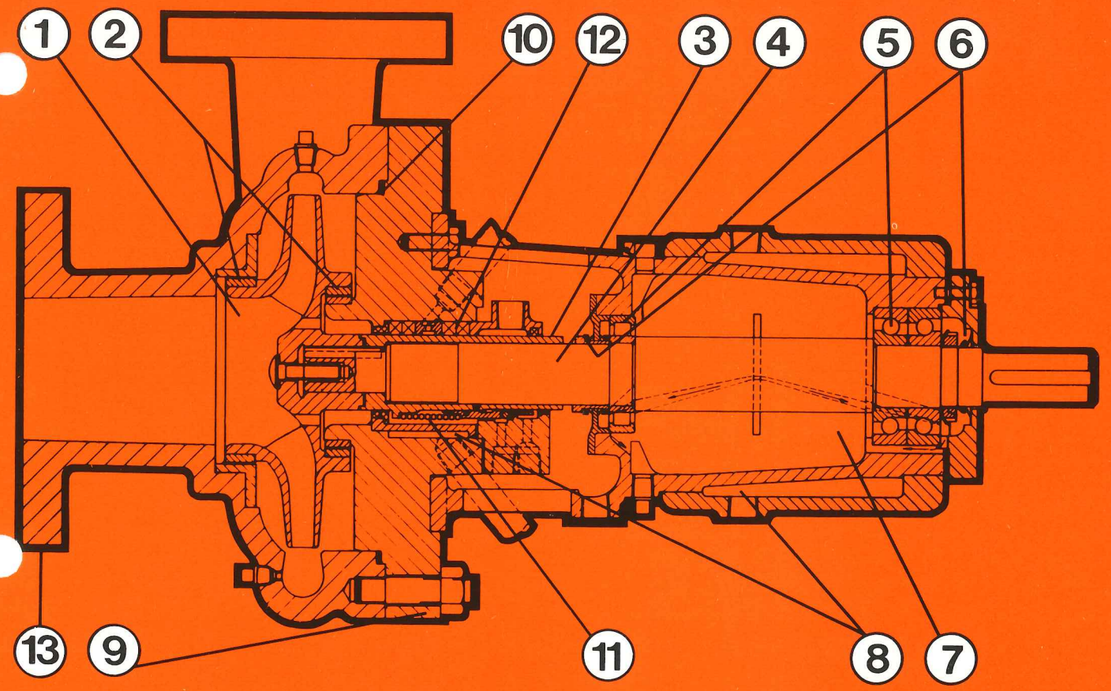
1. **Impellers:** Shrouded for high efficiency, and designed to give the best hydraulic performance. Balanced as required by AP1 610.
2. **Wear Rings:** Faces 'Stellited' when necessary, and secured by screws. Easily renewable.
3. **Shaft Sleeves:** Sealed against leakage and hard surfaced or 'Stellited' when necessary.
4. **Shafts:** Two sizes only covering the single-stage pump range. First critical speed well above maximum operating speed. Alloy or stainless steel, whichever is required for the application.
5. **Bearings:** The roller radial and angular contact thrust bearings are selected to give bearing lives above API 610 requirements. The back-to-back fitted angular contact bearings do not require to be paired; any two can be used together.
6. **Bearing Seals:** These prevent bearing contamination by liquid or solid matter and leakage of oil from the bearing housing.
7. **Lubrication:** Oil circulation is by a flinger and distributed through galleries. The correct level is maintained by a constant level oiler.
8. **Cooling:** Can be provided to bearing housing, stuffing box and pedestals when pumping temperature demands.
9. **Back Pull Out Design:** Allows complete rotating unit and stuffing box to be removed with no disturbance of pipe work or pump and driver alignment.
10. **Case Gasket:** Captive between pump case and stuffing box cover, conforming to API 610.
11. **Seal:** Mechanical seals of various types can be fitted to suit the pumping application.
12. **Seal:** Soft packing with lantern ring can be fitted.
13. **Flanges:** ASA 300 and ND 40 are standard but others can be supplied to suit customers' requirements.


CAPACITY IN IMPERIAL GALLONS PER MINUTE
10 50 100 500 1000 5000
300 250 200 150 100 75 50 30 25 20 15 10 5 3
DIFFERENTIAL HEAD IN METRES
1000 500 100 50 10
DIFFERENTIAL HEAD IN FEET
THE CM RANGE COMPRISES
41 SINGLE STAGE AND
8 TWO STAGE PUMPS
RANGE CHART
3 5 10 15 20 30 40 50 75 100 150 200 300 400 500 750 1000 1500 2000
CAPACITY IN M³ PER HOUR

50 Hz

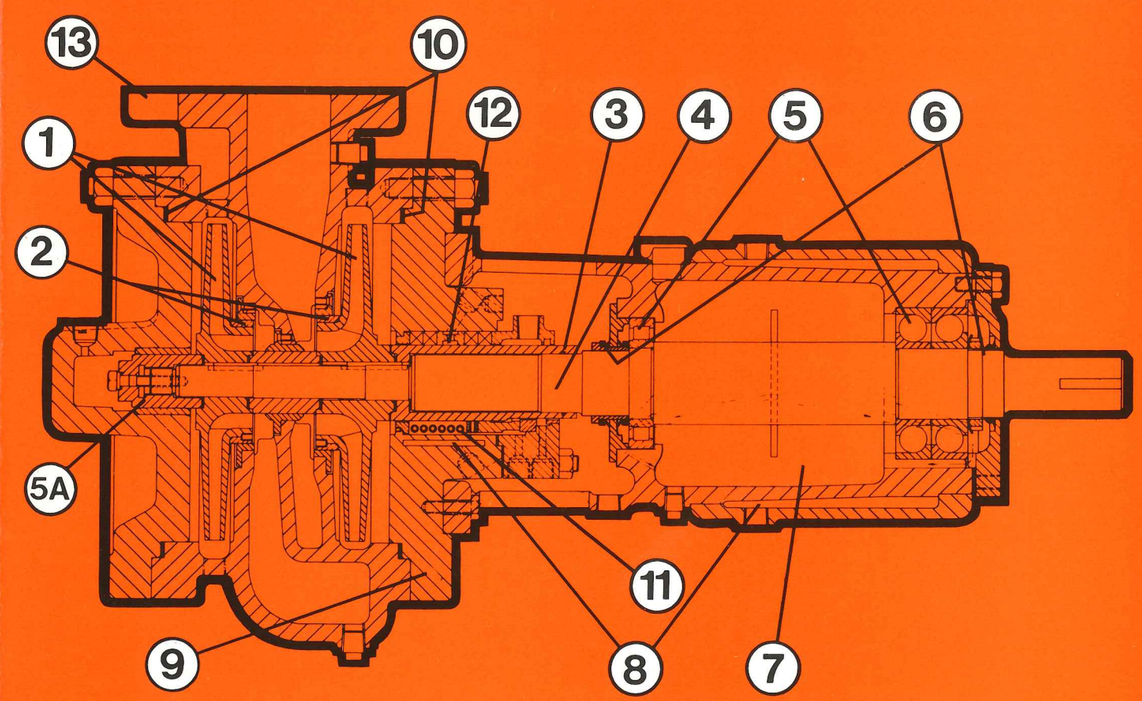

CAPACITY IN M³ PER HOUR
2 5 10 15 20 30 40 50 75 100 125 150 200 300 400 500 750 1000
1500 1000 500 100 50 10
DIFFERENTIAL HEAD IN FEET
500 300 200 150 100 75 50 30 25 20 15 10 5 3
DIFFERENTIAL HEAD IN METRES
THE CM RANGE COMPRISES
41 SINGLE STAGE AND
8 TWO STAGE PUMPS
RANGE CHART
10 50 100 500 1000 4000
CAPACITY IN U.S. GALLONS PER MINUTE

60 Hz



Single-Stage Pumps

1. **Impellers:** Shrouded for high efficiency, and designed to give the best hydraulic performance. Balanced as required by AP1 610.
2. **Wear Rings:** Faces 'Stellited' when necessary, and secured by screws. Easily renewable.
3. **Shaft Sleeves:** Sealed against leakage and hard surfaced or 'Stellited' when necessary.
4. **Shafts:** Two sizes only covering the single-stage pump range. First critical speed well above maximum operating speed. Alloy or stainless steel, whichever is required for the application.
5. **Bearings:** The roller radial and angular contact thrust bearings are selected to give bearing lives above API 610 requirements. The back-to-back fitted angular contact bearings do not require to be paired; any two can be used together.
6. **Bearing Seals:** These prevent bearing contamination by liquid or solid matter and leakage of oil from the bearing housing.
7. **Lubrication:** Oil circulation is by a flinger and distributed through galleries. The correct level is maintained by a constant level oiler.
8. **Cooling:** Can be provided to bearing housing, stuffing box and pedestals when pumping temperature demands.
9. **Back Pull Out Design:** Allows complete rotating unit and stuffing box to be removed with no disturbance of pipe work or pump and driver alignment.
10. **Case Gasket:** Captive between pump case and stuffing box cover, conforming to API 610.
11. **Seal:** Mechanical seals of various types can be fitted to suit the pumping application.
12. **Seal:** Soft packing with lantern ring can be fitted.
13. **Flanges:** ASA 300 and ND 40 are standard but others can be supplied to suit customers' requirements.



Two-Stage Pumps

1. **Impellers:** Shrouded for high efficiency and hydraulically opposed to reduce axial thrust to a minimum. Separated by a close fitting bush and centre sleeve which can be 'Stellited' when necessary. Balanced as required by API 610.
2. **Wear Rings:** Faces 'Stellited' when necessary, and secured by screws. Easily renewable.
3. **Shaft Sleeves:** Sealed against leakage and hard surfaced or 'Stellited' when necessary.
4. **Shafts:** Two sizes only covering the two-stage pump range. First critical speed well above maximum operating speed. Alloy or stainless steel, whichever is required for the application.
5. **Bearings:** The roller radial and angular contact thrust bearings are selected to give bearing lives above API 610 requirements. The back-to-back fitted angular contact bearings do not require to be paired; any two can be used together. An internal product lubricated journal type clearance bearing (5A) is also fitted between the second stage impeller and the pump outer cover. This ensures shaft deflection remains minimal under adverse operating conditions.
6. **Bearing Seals:** These prevent bearing contamination by liquid or solid matter and leakage of oil from the bearing housing.
7. **Lubrication:** Oil circulation is by a flinger and distributed through galleries. The correct level is maintained by a constant level oiler.
8. **Cooling:** Can be provided to bearing housing, stuffing box and pedestals when pumping temperature demands.
9. **Back Pull Out Design:** Allows complete rotating unit and stuffing box to be removed with no disturbance of pipe work or pump and driver alignment.
10. **Case Gaskets:** Captive between pump case and stuffing box cover, and pump case and outer cover, conforming to API 610.
11. **Seal:** Mechanical seals of various types can be fitted to suit the pumping application.
12. **Seal:** Soft packing with lantern ring can be fitted.
13. **Flanges:** ASA 300 and ND 40 are standard but others can be supplied to suit customers' requirements.