



① Unit: PBSPB. Series/Parallel Pumps Bench

② Electronic Console

DESCRIPTION

Unit designed to demonstrate the operational advantages of parallel or series operation, depending on the required duty.

This unit consists of two centrifugal pumps, a water tank and circulation pipes with valves at the inlet and outlet of the pumps, three pressure meters and a flow meter.

The centrifugal pumps can operate: alone, coupled in series or in parallel. A three-phase motor activates a pump with possibility of adjustment and measurement of the turn speed as well as of the transmitted mechanic torque.

The pumps are installed in a pipes system, which, as it is a closed circuit, avoids the permanent waste of water during the operation.

By the appropriate positioning of the valves it is possible to connect the pumps individually, in series or in parallel, depending on which test is going to be performed.

SPECIFICATIONS

① PBSPB. Unit:

Anodized aluminium structure.

Panels and main metallic elements in stainless steel.

Diagram in the front panel with similar distribution that the elements in the real unit.

2 Centrifugal pumps:

Maximum flow: 120 l./min.

Maximum height (approx.): 25 mwc (meter of water column).

One is a three-phase pump of 0.37 KW with continuous speed adjustment with inverter of frequency/voltage and the other one is single-phase.

3 valves that allow connecting the pumps separately in series or in parallel by the appropriate positioning of the valves and 2 regulating valves.

Discharge pressure meter (0 to 2.5 bar).

Discharge pressure meter (0 to 6 bar).

Admission pressure meter (-1 to 0 bar).

Flow meter, range: 0 - 150 l./min.

Torque measurement.

Speed measurement.

The speed of one pump is adjustable from speed controller.

Water tank, capacity: 60 l.

② Electronic Console:

Metallic box.

Speed controller.

Display for speed, torque and power.

Pumps switches.

③ Cables and accessories, for normal operation.

④ Manuals:

This unit is supplied with the following manuals: Required Services, Assembly and Installation, Starting-up, Safety, Maintenance & Practices Manuals.

EXERCISES AND PRACTICAL POSSIBILITIES

Some Practical Possibilities of the Unit:

- 1.- Obtaining of curves H (Q), N (Q), Eff% (Q).
- 2.- Obtaining of the map of a centrifugal pump.
- 3.- Adimensional study of magnitudes H*, N* and Q*.
- 4.- Cavitation test and obtaining of curves NPSH_r.
- 5.- Series coupling of two pumps with same characteristics.
- 6.- Series coupling of two pumps of different characteristics.
- 7.- Parallel coupling of two pumps with same characteristics.
- 8.- Parallel coupling of two pumps of different characteristics.

ORDER INFORMATION

The supply **always** includes:

- ① **Unit: PBSPB. Series/Parallel Pumps Bench.**
- ② **Electronic Console.**
- ③ **Cables and Accessories**, for normal operation.
- ④ **Manuals.**

*** IMPORTANT: Under PBSPB we always supply all the elements for immediate running as 1, 2, 3 and 4.**

REQUIRED SERVICES

- Electrical supply: 220V./50Hz or 110V./60Hz.
- Water supply and drainage.

DIMENSIONS & WEIGHTS

- Unit: -Dimensions: 1530 x 770 x 1000 mm. approx.
-Weight: 105 Kg. approx.
- Electronic Console: -Dimensions: 490 x 330 x 310mm. approx.
-Weight: 10 Kg. approx.

* Specifications subject to change without previous notice, due to the convenience of improvements of the product.



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REPRESENTATIVE: