PUMPS

XCS SERIES – SCREW CENTRIFUGAL
SOLIDS HANDLING PUMPS

Clog-free pumping action. For large or stringy solids, shear sensitive fluids and delicate materials.

Waste Treatment
Sludges, Slurries, Floculents.

Food Processing
Live Fish, Fruits, Vegetables.

Pulp and Paper
Wood Chips, Medium Density Pulp Stocks, Sludges.

Chemical/Petrochemical
Oil/Water Separators, Crystal Slurries, Non-Newtonian Slurries.

Mining
Carbon and Resin Slurries, Solvent Extraction.

APPLICATIONS

PERFORMANCE RANGE

DIMENSIONS

NOT FOR CONSTRUCTION USE.

DIRECT DRIVE

V-BELT

VERTICAL DRY PIT

SUBMERSIBLE

In addition to the arrangements shown below, Hayward Gordon XCS Series pumps can be manufactured in custom configurations.

In addition to the arrangements shown below, Hayward Gordon XCS Series pumps can be manufactured in custom configurations.

HEAD – FEET

HEAD (m)

CAPACITY – (m³/hr)

CAPACITY – USGPM

Pump Model

Wt.

Lb

Kg.

Suction and Discharge size

U

SUCT DISC CP D E

1

E

2

F G H L Dia. Keyway O V X Y X

4 4 27.4 8.25 5.75 1.75 15.4 .75 .75 5.23 1.38 .31 x .31 18 3 9.75 6.9 10 350

100 100 696 210 146 44.5 391 19 19 133 35 7.9 x 7.9 457 77 248 174 254 159

4 4 28.9 8.25 5.75 1.75 15.4 .75 .75 6.78 1.38 .31 x .31 19.0 3 10.8 7.75 10.13 360

100 100 734 210 146 44.5 391 19 19 166 35 7.9 x 7.9 483 77 273 197 268 164

8 4 38.8 13.5 8.12 6.5 21.75 .62 .87 9.5 2.18 .50 x .50 28 4.25 14.5 9.5 13.2 875

200 100 986 343 206 165 553 16 22 241 55 12.7 x 12.7 711 108 368 241 335 398

6 5 32.4 10 6.38 4.38 16.75 .62 .87 8.06 1.88 .50 x .50 23.1 3.7 13.1 9.8 12.6 500

150 125 823 254 162 111 425 16 22 205 48 12.7 x 12.7 586 94 333 246 321 227

10 5 43.1 15.5 12.0 6.5 23.7 1.0 1.0 9.0 2.63 .63 x .63 33.6 6 18.1 12.0 13.2 875

250 125 1095 394 305 165 602 25.4 25.4 229 66.8 16 x 16 853 108 368 241 335 398

8 6 43.6 13.5 8.12 6.5 23.7 .62 .87 10.8 2.18 .50 x .50 29.5 4.25 16 13.5 15.3 900

200 150 1107 343 206 165 602 16 22 273 55 121.7 x 12.7 749 108 406 343 389 409

8 8 33.9 13.5 8.12 4.38 18.7 .62 .87 7.9 1.88 .50 x .50 29.2 3.7 15.7 10.9 16.4 700

200 200 861 343 206 111 475 16 22 201 48 12.7 x 12.7 742 94 399 277 417 318

10 10 44 15.5 12 6.5 23.6 1 1 13.5 2.18 .50 x .50 35.5 4.25 20 13.5 19.92 1400

250 250 1118 394 305 165 600 25.4 25.4 343 55.4 12.7 x 12.7 902 108 508 343 506 636

12 12 50.1 21 13 6.5 24.6 1 1 18 2.63 .63 x .63 48 6 27 18 24.41 1750

300 300 1271 533 330 165 625 25.4 25.4 457 66.8 16 x 16 1219 152 686 343 506 795

16 16 65 26 18 6.5 33.0 1.25 1.25 20 3.38 .88 x .88 46 7 20 20 30.5 2950

400 400 1651 660 457 165 838 32 32 508 86 22.2 x 22.2 1168 178 508 508 775 1340

12 12 50.1 21 13 6.5 24.6 1 1 18 2.63 .63 x .63 48 6 27 18 24.41 1750

300 300 1271 533 330 165 625 25.4 25.4 457 66.8 16 x 16 1219 152 686 343 506 795

16 16 65 26 18 6.5 33.0 1.25 1.25 20 3.38 .88 x .88 46 7 20 20 30.5 2950

400 400 1651 660 457 165 838 32 32 508 86 22.2 x 22.2 1168 178 508 508 775 1340

10 10 44 15.5 12 6.5 23.6 1 1 13.5 2.18 .50 x .50 35.5 4.25 20 13.5 19.92 1400

250 250 1118 394 305 165 600 25.4 25.4 343 55.4 12.7 x 12.7 902 108 508 343 506 636

12 12 50.1 21 13 6.5 24.6 1 1 18 2.63 .63 x .63 48 6 27 18 24.41 1750

300 300 1271 533 330 165 625 25.4 25.4 457 66.8 16 x 16 1219 152 686 343 506 795

16 16 65 26 18 6.5 33.0 1.25 1.25 20 3.38 .88 x .88 46 7 20 20 30.5 2950
The Screw Centrifugal Design

The Hayward Gordon XCS screw centrifugal pump line offers a unique set of advantages for handling thick sludges, large or stringy solids, shear-sensitive fluids, and delicate materials. The XCS open channel screw centrifugal impeller combines gentle, clog-free pumping action with high efficiency and non-overloading characteristics.

For abrasive solids, Hayward Gordon’s proven clamp type construction permits the manufacture of wet-end components in wear resistant hard metals. The primary performance advantages of the XCS design are summarized below:

- **High Efficiency (up to 80%)**
- **Clog-Free Operation**
- **Abrasion Resistant Construction**
- **Non-overloading Power Curve**
- **Low NPSH Requirements**
- **Gentle Pumping Action**
- **Positive Suction Flow**

**High Efficiency**

The combined screw-centrifugal action provides smooth flow, low turbulence and minimum hydraulic losses. This translates directly into reduced power costs through lower energy consumption.

**Clog-Free Operation**

The large, open channel design allows material to be pumped without restrictions or abrupt changes in direction. There are no exposed blades or edges for particles to catch on. Maintenance due to clogging is virtually eliminated.

**Abrasion Resistant Construction**

Hayward Gordon’s proven clamp type construction eliminates the need for drilled and tapped holes on seal-end components. This allows construction in a variety of hard metals including Ni-Hard and High Chrome Iron. Also offered is an externally adjustable suction liner that allows convenient adjustment of internal clearances to compensate for wear. These XCS advantages provide long service life in abrasive applications.

**Non-overloading Power Curve**

The power requirements of the Hayward Gordon XCS line are relatively constant when compared to other pump designs. In many cases, the power consumption actually drops with increasing capacity. Motor overloading will not occur when capacity increases due to a drop in head. Capital and operating costs are thereby reduced by not having to purchase and operate oversized motors.

**Low NPSH Requirements**

The NPSHR (net positive suction head requirement) of Hayward Gordon XCS pumps is extremely low compared to other centrifugal pumps. The suction reducing effect of the impeller’s screw section allows the pump to handle thick sludges, hot liquids, and liquids near their vapour pressure without the expensive task of having to construct an elevated liquid source.

**Gentle Pumping Action**

The XCS’s smooth, non-turbulent flow path and large open channel from suction to discharge, allows delicate or shear sensitive material to pass gently through the pump without damage. Fruits, vegetables, flocculants, crystal slurries, and even live fish are easily handled.

**Steep Performance Curve**

The steep head-capacity curve means that reserve head is available to keep thick fluids moving even if sludge consistency increases. The positive displacement action of the screw section and low NPSHR means that XCS pumps are capable of reducing the suction required to get these fluids moving.

**Sleep Performance Curve**

Hayward Gordon’s proven clamp type construction eliminates the need for drilled and tapped holes on seal-end components. This allows construction in a variety of hard metals including Ni-Hard and High Chrome Iron. Also offered is an externally adjustable suction liner for convenient adjustment of impeller clearance.

**Clamp type construction eliminates drilled and tapped holes on seal-end components.**

Hayward Gordon’s proven clamp type construction eliminates the need for drilled and tapped holes on seal-end components. This allows construction in a variety of hard metals including Ni-Hard and High Chrome Iron. Also offered is an externally adjustable suction liner for convenient adjustment of impeller clearance.

**Oversized grease or oil lubricated bearings for extended service life.**

All shafts are heavy duty designs complete with shaft sleeves through the sealing area.

**Back pullout design featuring solid foot-mounted casing, above suction or powerhouse.**

A wide range of mechanical seals is also available.

**Efficient, open-channel, non-clog impeller for smooth passage of large or delicate solids.**

**Optional externally adjustable suction liner for convenient adjustment of impeller clearance.**

**Pump and materials of construction include: High Chrome Iron and Ni-Hard for abrasive applications; PLX, Cast Iron, Ductile Iron, 316SS, and other alloys.**

**Clamp type construction eliminates drilled and tapped holes on seal-end components.**

Hayward Gordon’s proven clamp type construction eliminates the need for drilled and tapped holes on seal-end components. This allows construction in a variety of hard metals including Ni-Hard and High Chrome Iron. Also offered is an externally adjustable suction liner for convenient adjustment of impeller clearance.

**Split bronze gland for easy replacement.**

A wide range of mechanical seals is also available.