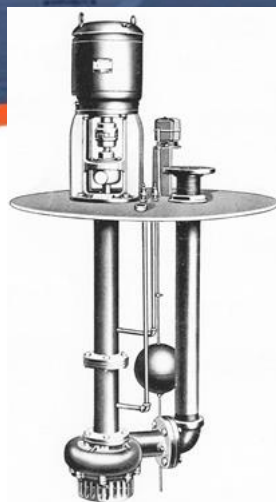


CRANE®

Crane Pumps & Systems

COLUMN PUMPS



CRANE®

PUMPS & SYSTEMS

- Overview
- Features/Advantages/Benefits
- Applications
- Selling Against the Competition
- Selection and Pricing Scenarios
- Sales & Marketing Tools

- Able to pump many different fluids
- Units are always primed
- Many sizes to fit any application
- Simplex and Duplex Configurations
- No stuffing box or seals to fail (Temperature, Corrosion, Evaporation)
- Available in a variety of materials
- Designed to fit in sumps from 2' to 22' deep
- Standard Lengths in 6" Increments
- Versatile – Adjustable, semi-open impeller to maintain performance
- Above or below support plate discharge
- Vented or vapor-tight construction

CP&S Column Sump Pumps

Everyone. Everywhere. On Time Every Time.

WEINMAN®

**700 S & SA
General Service
Low Capacity
Column Sump**

**710 MG-VS
General Service
High Capacity
Column Sump**

**800 SM-VS Non-
Clog Sewage
Ejector**



DEMING®

**4507/4508 Vertical
Sump**

**4500 Heavy Duty
Vertical Sump**

**5500 Vertical
Process**

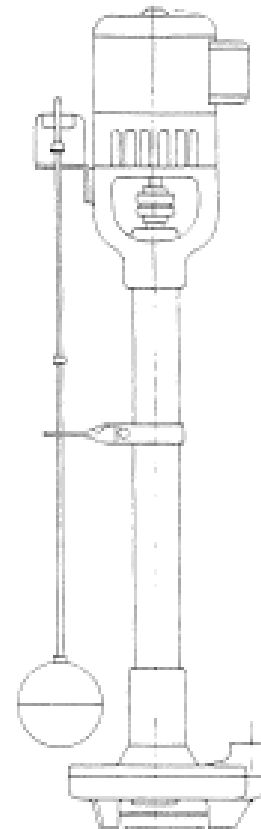
Weinman Column Sump Pumps

Everyone. Everywhere. On Time Every Time.

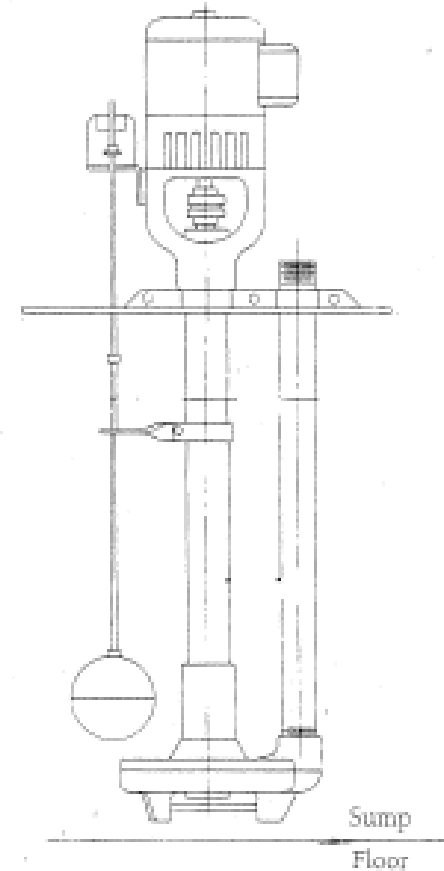
700 S & SA Series - Designed to handle drainage water and liquids containing small, non-fibrous solids.

- Model S = Floor Stand Model
- Model SA = Suspended Model
- Simplex or Duplex
- Performance Details
 - Flows to 70 GPM
 - Heads to 45 FT
- Max Sump Depth = 96"
- Discharge size 1.50" NPT
- Horsepower from 1/4 to 1 HP
- NEMA C Face Motors
- Semi-open bronze impeller
- Cast iron double volute type which minimizes the load and prolongs the life of the bottom bearing
- Adjustable impeller by means of an adjusting coupling and thrust bearing in the motor pedestal
- Steel Column Pipe
- Replaceable self lubricating bronze intermediate and bottom bearing bushings (5' Max Spacing)
- Strainer keeps out fibrous or stringy material to minimize clogging

MODEL S
Floor Stand Model



MODEL SA
Suspended Model



Weinman Column Sump Pumps

Everyone. Everywhere. On Time Every Time.

710 MG-VS Series - Designed to handle drainage water and liquids containing small, non-fibrous solids.

- Simplex or Duplex
- Performance Details
 - Flows to 1400 GPM
 - Heads to 90 FT
- Max Sump Depth = 22'
- Discharge sizes from 2 to 6"
- Horsepower from 1/2 to 20 HP
- NEMA C Face Motors
- Cast iron liquid end
- Semi-open impeller adjustable by means of an adjusting nut located above the thrust bearing in the motor support.
- Replaceable grease lubricated intermediate and bottom bearings (5' Max Spacing)
- Steel Column Pipe
- Strainer keeps out fibrous or stringy material to minimize clogging



Weinman Column Sump Pumps

Everyone. Everywhere. On Time Every Time.

800 SM-VS Series Solids Handling – Designed for pumping of sewage, sludge and trash

- Simplex or Duplex
- Performance Details
 - Flows to 800 GPM
 - Heads to 100 FT
- Max Sump Depth = 15'
- Discharge sizes 3" & 4"
- Horsepower from 3/4 to 20 HP
- Solid size up to 3"
- NEMA C face motors
- Cast iron liquid end
- Semi-open non-clog impeller adjustable by means of an adjusting nut located above the thrust bearing in the motor support.
- Replaceable grease lubricated intermediate and bottom bearings (5' Max Spacing)
- Steel Column Pipe



Deming Column Sump Pumps

Everyone. Everywhere. On Time Every Time.

4507 Series – Drainage Service on Medium Capacity Installations

- AS-IS Pump – no optional materials of construction
- Simplex or Duplex
- Performance Details
 - Flows to 80 GPM
 - Heads to 35 FT
- Sump Depth = 2', 3', 4' or 6'
- Discharge sizes 1-1/2" NPT
- Horsepower from 1/3 to 3/4 HP
- NEMA 56C frame motor
- Cast iron casing
- Semi-open bronze impeller adjustable by means of an adjusting nut located above the thrust bearing in the motor support.
- Replaceable self lubricated lower bearing
- Sealed Thrust Bearing
- Steel Column Pipe
- Automatic control with stainless float rods and two pole snap action float switches



Type "A" is suspended with a 20" split cover plate



Type "B" is a free-standing pump with no cover plate

Deming Column Sump Pumps

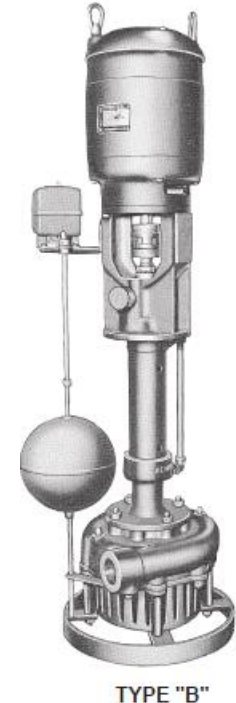
Everyone. Everywhere. On Time Every Time.

4508 Series – Medium Duty Industrial Sump Pump

- Simplex or Duplex
- Performance Details
 - Flows to 280 GPM
 - Heads to 60 FT
- Max Sump Depth = 10'
- Discharge sizes 1-1/2" to 3" NPT
- Horsepower from 1/2 to 2 HP
- NEMA C frame motor
- Cast iron construction – Optional Bronze Fitted
- Semi-open impeller adjustable by means of an adjusting nut and positive lock
- Replaceable product lubricated shaft guide bearings (Max 5' Spacing)
- Replaceable grease lubricated lower bearing
- Sealed Thrust Bearing
- Threaded Steel Column Pipe



Type "A" is suspended with a 20" split cover plate



Type "B" is a free-standing pump with no cover plate

Deming Column Sump Pumps

Everyone. Everywhere. On Time Every Time.

4500 Series – Heavy Duty Industrial Sump Pump

- Simplex or Duplex
- Performance Details
 - Flows to 3000 GPM
 - Heads to 150 FT
- Max Sump Depth = 20'
- Discharge sizes 1-1/2" to 10"
- NEMA C frame motor
- Cast iron, 316SS or C-20 construction
- Semi-open impeller adjustable by means of an adjusting nut and positive lock
- Replaceable grease lubricated shaft guide bearings (Max 5' Spacing)
- Replaceable grease lubricated lower bearing
- Sealed Thrust Bearing
- Bearing Material Based on product compatibility



**4501 – 1-1/4" Shaft
with 7/8" taper and 1"
to 2-1/2" NPT volute**

**4511 – 1-1/4" Shaft
with 1" taper and 1"
to 4" NPT volute**

**4521 – 1-1/2" Shaft
with 1-1/4" taper and
1-1/2" to 6" NPT
volute**

**4560 – 4" to 10"
flanged volute and
NEMA 143TC to
447TSC Motor Frame**

Deming Column Sump Pumps

Everyone. Everywhere. On Time Every Time.

5500 Series – Heavy Duty Process Pump for Industrial and Chemical Process Service able to handle clear liquid or liquids with small solids in suspension

- Simplex or Duplex
- Performance Details
 - Flows to 1800 GPM
 - Heads to 100 FT
- Max Column Length = 21-5/8"
- Discharge sizes 1" to 6"
- NEMA C frame motor
- Cast iron, 316SS or C-20 construction
- Semi-open impeller adjustable by means of an adjusting nut and positive lock
- Replaceable grease lubricated shaft guide bearings (Max 5' Spacing)
- Replaceable grease lubricated lower bearing
- Sealed Thrust Bearing
- Bearing Material Based on product compatibility
- Threaded Column Pipe

5562 – Replaceable Suction Cover (Front Pull Out)

5564 – Integral Suction Cover (Back Pull Out)



Level Control Equipment

Everyone. Everywhere. On Time Every Time.

Liquid Level Controls

The liquid level of a sump, pit or elevated tank may be automatically controlled by means of a suitable pilot control, wired to a magnetic starter, to start and stop the pump(s) at the required liquid levels; such controls are available as described below.

Float Switches

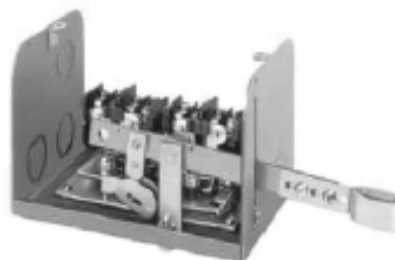
The float switches described below may be mounted on the cover plate of the Figure 4500 Series Sump Pumps and Figure 7560 Series Wet Pit Sewage Pumps or mounted separate from the pump for other liquid control purposes.



Figure 9036-GG is a general purpose 2-pole float switch in NEMA 1 enclosure for pilot service with magnetic starter or for single phase motors, 1 HP or smaller, having built-in overload protection. Normally used for pump-down control but also available for pump-up control. Operating depth limited.

Figure 9036 DW-31 and DR-31 are general purpose float switches in NEMA 1, 4 and 7 enclosures respectively, for pilot service with magnetic starter or for single phase motors, 1 HP and smaller, having built-in overload protection. Normally used for pump-down control but also available for pump-up service. Operating depths to 28 feet.

Figure 9038-AG-1, AW-1 and AR-1 float switches in NEMA 1, 4 and 7 enclosure respectively are normally used with duplex (2 pump) Figure 4500 and 7500 series pump installations. They combine the action of a general purpose float switch with a mechanical alternator to provide liquid level control, to alternate the operation of two pumps on successive cycles and operate both pumps under peak load conditions, also provides for single pump operation should one pump become inoperative. Extra contact available for high water alarm on type AG-1.



Type AG, AW, AR

Pump Selection Tool

Everyone. Everywhere. On Time Every Time.

Large Sump or Drainage Pumps

The proper selection of guide bearing assembly, column closure and shaft material is essential for the successful operation of Vertical Sump and Process Pumps, due to the variety of liquids that may be encountered at the point of installation.

DEMING offers a wide choice of bearing construction and shaft materials to meet requirements of most installations. Listed below are recommendations for the proper selection of these important items.

BEARING SELECTION

Maximum Recommended Operating Temperature 400°F

Type of Service	Typical Application	Bearing Material	Max. Liquid Temp °F	BHN	Recommended Lubrication			Abrasion Resistance of Bearing when used in Bearing Assembly Indicated		
					Clean Liquid (1)	Grease (2)	Dry (3)	Fair	Good	Best
General	Furnished on Standard Fitted and Bronze Fitted Pumps	Bronze	180*	57/64	NR	R	NR	6 & 8	11	NR
Clean Liquids	Cold or Hot Water, Sea Water, Cleaning Fluids, Gasoline, Kerosene, Jet Fuels	Babbitt-Graphite*	300*	19	R	NR	R	NR	NR	NR
Acids (clean)	Most Acids - Max. 60% Sulfuric	Carbolube*	400*	237	R	NR	R	6 & 8	11	NR
	Most Acids - Max. 100% Sulfuric	Nickel Graphite*	400*	—	R	NR	R	NR	NR	NR
Alkaline Caustic	Sodium Hydroxide, etc. Standard on All Iron Pumps	Class 30 Cast Iron	180*	160	NR	R	NR	6 & 8	11	NR
Chemical	General Service with most clean Acids and Solvents	Teflon *	350*	—	R	R	NR	10	NR	NR
Mild Abrasive	General Service with Compatible Liquids	Cast Iron	180*	180	NR	R	NR	NR	6 & 8	11
General Abrasives	Used in Compatible Liquids except Concentrated Acids and Solvents	Rubber * (Buna)	150*	—	R	NR	NR	NR	NR	12
Molten Sulphur	Used as bottom bearing with Carbolube Intermediate Bearing	Babbitt-Graphite*	350*	220	NR	NR	R	NR	NR	6
Nuclear	Deminerlized Water	Nickel Graphite *	400*	—	R	NR	R	6 & 8	11	NR

(* Requires Type 416, Carp. 20 or 316 Stainless Steel Shaft.

R - Recommended

NR - Not Recommended

Important! - Pump Should be Minimum 1 HP.

Note: (1) Clean liquid flush to bearing requires approx. 1/2 gpm per bearing at pressure equal to or greater than 1/2 of the pump discharge pressure. Solenoid valve is required.

(2) Standard grease lubricated pump includes grease fitting on lube line to each bearing assembly. Spring loaded grease cup optional when specified.

(3) Bearings indicated for dry lubrication are lubricated by the liquid being pumped.

(4) Add 1/2 hp per Intermediate Bearing.

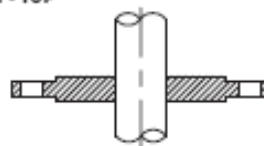
RECOMMENDED SHAFT MATERIALS

Listed below is general recommendation of shaft materials for various types of chemical service

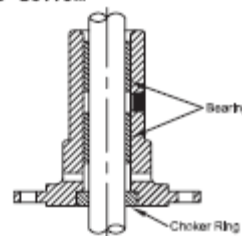
Shaft Material	Brinell Hardness	Application
4140 SAE Steel	163	General Service - Furnished in standard fitted pumps
416 Stainless Steel	207 - 241	General Service in mild acids and chloride solutions
316 Stainless Steel	135 - 185	Industrial chemicals, solvents, chlorides, brines and most acids
Carp. 20 Stainless Steel	160	Most active acids except those requiring Hastelloy or other metals

For specific applications, contact Factory with full information.

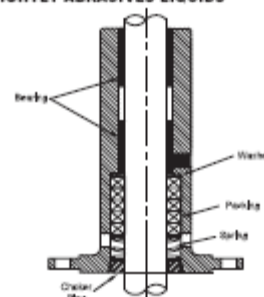
DESIGN 1 - TOP



DESIGN 6 - BOTTOM



FOR SLIGHTLY ABRASIVE LIQUIDS

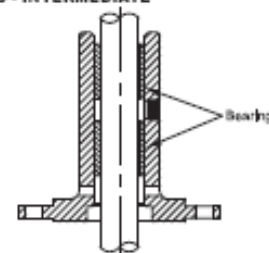


DESIGN 11 includes bearings of the material selected, five rings of packing under spring tension plus choker ring in bottom of the housing to form a seal to exclude abrasives from the bearings.

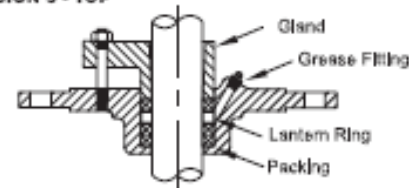
For pressurized grease lubrication, specify bearing of Bronze or Cast Iron.

For pressurized liquid lubrication, specify bearings of Babbitt Graphite, Nickel Graphite or Carbolube.

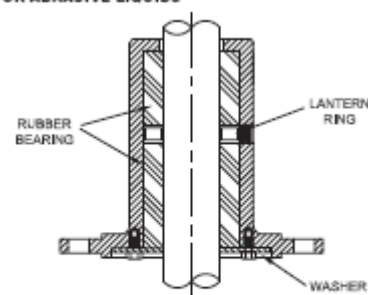
DESIGN 8 - INTERMEDIATE



DESIGN 3 - TOP



FOR ABRASIVE LIQUIDS



DESIGN 12 is recommended for abrasive liquids and includes two rubber bearings separated by lantern ring for flush connection. Requires pressurized liquid lubrication.

For installation requiring maximum protection against abrasives, refer full information to Factory.

Applications

Everyone. Everywhere. On Time Every Time.



Our on-line catalogs have everything you need for a complete submittal package – brochures, engineer specifications, dimensions and catalog curves.

CRANE® PUMPS & SYSTEMS

Commercial Building

Commercial Building Catalog, Volume 2 - Wastewater

PUMP TYPES	PRODUCT
Sump Pumps	
Sump & Utility Pumps	Barnes 1A
Column Sump Pump, Type S & SA	Weinman 700
Column Sump Pump, Type MG-VS	Weinman 710
Effluent Pumps	
Submersible Effluent Pumps	Barnes 3A
Sewage Ejectors	
Sewage Ejectors	Barnes 1B
Vertical Submerged Non-Clog Sewage Ejectors Type SM-VS	Weinman 800
Non-Clog	
3" Non-Clog Submersible Explosion Proof	Barnes 1C
4" Non-Clog Submersible	Barnes 1D
4" Non-Clog Submersible Explosion Proof	Barnes 1E
Demersible® Solids Handling	Deming 42A
Grinders	
Grinder Pumps	Barnes 3B
Grinder Pumps Explosion Proof	Barnes 3C
Submersible Accessories	
Control Panels	Barnes Section A
Break Away Fittings	Barnes Section B
Basins and Accessories	Barnes Section C

Sewage Ejection Pumps

Vertical Submerged Non-Clog Sewage Ejector Pumps for Industrial and Commercial Pumping

Weinman Type M-VS sewage ejection pumps are designed for industrial and commercial pumping of sewage, sludge and trash. The submerged sewage ejectors are built in a wide range of pump sizes for a variety of applications. Auxiliary equipment is offered to assure the right model for your particular installation.

Accessories

Float Switch Weinman Sewage Ejectors are furnished with Square D Type GG-2 float switch. It is mounted on an elevated stand and equipped with movable rod and copper float measuring 6 inches in diameter by 9 inches long. Float switch can be furnished with Water Tight Type DW or explosion Resisting Type DR enclosures at additional cost.

Rubber Bearings Cutless water lubricated bearings can be used where bearings are submerged or water or liquids can be piped for lubrication and loads and temperatures are not injurious to rubber.

Mechanical Alternator Weinman Duplex Pumps are generally furnished with Square D 9038 Type AG mechanical alternator in place of the two float switches. Alternator can be furnished with Water Tight Type AW or Explosion Resisting Type AR enclosures at additional cost.

High Water Alarm Apex Markco high water alarm model LLC-1H with switch only, switch and horn, or switch, horn and reset button and panel. Senses static head pressure between media with bellows mounted in NEMA 1 enclosure. Trips microswitch on 2-3" fluid rise with no moving parts in the fluid.

WEINMAN®
Series 800

Heads to 100'
Flows to 800GPM


CP&S Connect

Also offers links to many tools to make your sizing and selling of CP&S products easy to find and use. You will find everything from e-Pump ordering tools to price pages, You can check status of your orders, and much more!

The screenshot shows the CP&S Connect web application running in a Windows Internet Explorer browser. The address bar displays the URL <https://www.craneumps.com/user/index.php>. The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The address bar also shows a search bar with the text "column sump pump manufacturers".

The application interface features a navigation menu on the left with the following sections:

- CP&S Connect Menu**
 - Home Page
 - Information
 - Announcements
 - Commissions Report
 - Company Policy / Info
 - Discontinued Pumps
 - General Product Info
 - CP&S Logos & Graphics
 - Meet Inside Sales
 - My Quotes
 - Price Page Downloads
 - Monthly Specials
 - Selling Aids
 - Online Learning Center
 - Order / Product Information
 - Alternate Pump Search
 - Bill of Materials
 - Consigned Inventory
 - Inventory Lookup
 - Lookup My Order
 - Orders Not Yet Shipped
 - Lookup WholeSaler Order
 - Orders Not Yet Shipped (WholeSaler)
 - Sales by Product Type
 - Serial Number Search
 - Shipment Status
 - Target Lists
 - Admin Tools
 - Channel Partners - Add
 - Channel Partners - Edit

The main content area displays a "Welcome to CP&S Connect" message with the tagline "Your real time connection to all your CP&S information. Always **current**, always **connected**." Below this, there are several tool links:

- ePump**: Online ordering and configuration tool.
- Mentor Pump Selector**: Select a catalog, enter specification criteria and mentor displays products curves that meet your application design points. Links include "Use Mentor on the Web" and "Download to Your Computer".
- BPV Selection Software**: Please click on the image or link above to access the BPV selection software. (Best Viewed With Internet Explorer)
- Revit Content delivered via ENGworks BIMXchange**

On the right side of the main content area, there is a box titled "CP&S Connect Admins" with the following text:

Admins can add new users, disable users, and update permissions.

There are no admins for your company.

Need an admin added or removed?

[Contact CP&S](#)

The bottom status bar of the browser shows "Done, but with errors on page." and "Local intranet".

Our Mentor sizing program allows you to find the best pump for the application.

Not only do you obtain the proper curve, you also can link directly to the catalog section for the pump you chose, saving you time.


The screenshot shows a web browser window titled "Pump Selector - Windows Internet Explorer". The address bar shows the URL "https://www.cranepumps.com/pumpselector.php". The browser's Favorites bar includes "Crane Intranet", "First Call Resolution", "Pump Selector", and "Catalog". The website's navigation menu includes "Home", "Products", "Service / Support", "About Us", and "Distributors". A status bar at the top indicates "You are signed in Rhonda Sanders (Crane Pumps & Systems)" and provides links for "CP&S Connect" and "Sign Out".

Mentor Pump Selection Tool


Find a Pump That Fits Your Needs

Mentor, is an electronic guide for selecting and evaluating Crane's centrifugal pump product lines. Mentor is available for CP&S centrifugal pump product lines including: Barnes, Deming and Weinman and International products.

Please choose from one of the following options below to run the Mentor software over the internet or download to your computer.



ONLINE



DOWNLOAD

Instructions:

Utilizing a wide variety of reference tools, Mentor selects all the pumps that meet applications specific criteria then allows the user to select the "best pump" for the required application. The pump selections are based on a number of user inputs such the physical properties of the fluids, motor criteria, capacity and differential head (TDH). After a quick search of the selected catalog, Mentor returns a complete list of pumps meeting the design criteria. Categories for selecting the most optimum pump and motor include speed, NPSHr, best efficiency point (BEP), design efficiency, power and motor size. Application specific performance curves can then be displayed for comparison and evaluation. Supporting documentation such as product specifications, dimensional drawings, cutaway views and engineering specifications can also be generated.

Mentor also allows the user to evaluate multiple pump operations, calculate operating costs and perform temperature vs. vapor pressure analyses for CP&S's sealless pump product lines. Motor speeds can be varied to evaluate the use of variable speed controllers. Mentor provides a novice the ability to design,

The browser's status bar at the bottom shows "Done, but with errors on page." and "Local intranet".

Q&A



Thank You!