

***NOW STOCKED IN CD4MCu**

AVAILABLE MOUNTING CONFIGURATIONS

4NHTB-RP-F Redi-Prime® Frame Mount
4NHTB-RP-EM Redi-Prime® Engine Mount
4NHTB-F Frame Mount
4NHTB-EM Engine Mount
4NHTB-VF Vertical Frame Mount

OPERATING LEVELS

MIN FLOW	340 GPM	77.18 m³/h
MAX FLOW	2000 GPM	454 m³/h
DISCHARGE SIZE	4"	101.6 mm
SUCTION SIZE	5"	127 mm
SOLIDS HANDLING	3"	7.62 cm
MAX SPEED	2000 RPM	2000 RPM
SHUT-OFF HEAD	470'	143.3 m
BEP HEAD	393'	119.8 m
BEP FLOW	1863 GPM	422.901 m³/h
BEP PERCENT	70%	70%



A typical picture of the pump is shown. Please contact Cornell Pump Company for further details. All information is approximate and for general guidance only.

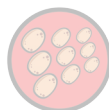
PARTS	MATERIAL	CD4MCU
WEAR RING	420 HT STAINLESS STEEL	CD4MCU
IMPELLER	CA6NM	CD4MCU
VOLUTE	DUCTILE IRON	CD4MCU
SHAFT	4140/4142 BD	17-4 PH
SHAFT SLEEVE	416 SS	CD4MCU
SUCTION COVER	CAST IRON	CD4MCU
MECHANICAL SEAL	TUNGSTEN CARBIDE X SILICON CARBIDE	TCXSC
O-RINGS	BUNA N	BUNA N

The 4NHTB pump is designed with Cornell's renowned quality and durability. It features a 4" discharge, 5" suction, and enclosed impeller. Available in All Iron or CD4MCu materials. Cornell's patented Cycloseal® design is standard, with a Type 2 single mechanical seal with Buna-N elastomers, stainless steel hardware and tungsten carbide vs. silicon carbide seal faces for abrasion resistance.

- Excellent NPSHr
- Industry-leading efficiencies
- Variable speed
- Patented Cycloseal® design
- Heavy-duty construction
- RunDry™ option (Indefinite run dry capability)
- Redi-Prime® available for fully-automatic continuous priming



AGRICULTURE



FOOD



INDUSTRIAL



MINING



MUNICIPAL



OIL & GAS



REFRIGERATION



RENTAL



Company: T4 Pumps

Name:

Date: 10/25/2025

Pump:

Size: 4NHTB

Type: Encl Solids Handling
Synch speed: Adjustable

Curve: 4NHTBVA

Specific Speeds:

Dimensions:

Speed: 1570 rpm
Dia: 445 mm

Impeller:

nq: 18.972
S: ---

Suction: 125 mm
Discharge: 100 mm

Search Criteria:

Flow: 250 m³/hr

Head: 79 m

Fluid:

Water
Density: 998 kg/m³
Viscosity: 0.9946 cP

Temperature: 20 °C
Vapor pressure: 2.339 kPa a
Atm pressure: 101.4 kPa a

NPSHa: ---

Motor:

Standard: ---
Enclosure: ---

Speed: ---
Frame: ---

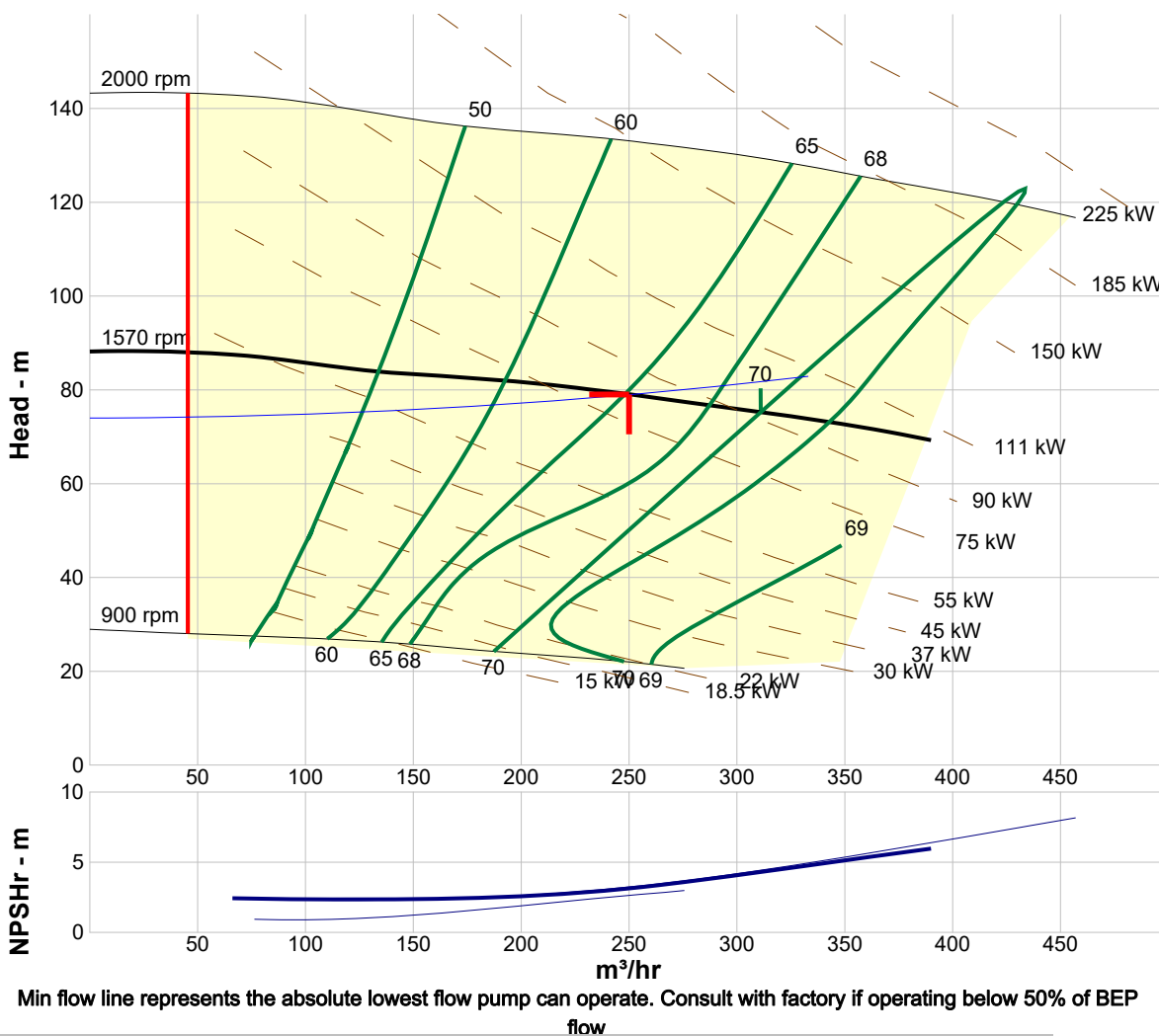
Sizing criteria: Max Power on Design Curve

Pump Limits:

Temperature: 121 °C
Pressure: 1724 kPa g
Sphere size: 76.2 mm

Power: ---
Eye area: ---

--- Data Point ---	
Flow:	250 m³/hr
Head:	79.1 m
Eff:	65%
Power:	82.5 kW
NPSHr:	3.15 m
--- Design Curve ---	
Shutoff head:	88.2 m
Shutoff dP:	863 kPa
Min flow:	45.4 m³/hr
BEP:	70% @ 311 m³/hr
NOL power:	106 kW @ 390 m³/hr
-- Max Curve --	
Max power:	208 kW @ 457 m³/hr



Performance Evaluation:

Flow m³/hr	Speed rpm	Head m	Efficiency %	Power kW	NPSHr m
300	1570	75.9	69	89.7	4.08
250	1570	79.1	65	82.5	3.15
200	1570	81.6	61	73	2.61
150	1570	83.4	53	63.9	2.41
100	1570	85.7	40	57.1	2.4

VSD/Motor Application Selection



Application : Specific Duty Points

Reference:

Version: VSD1.1

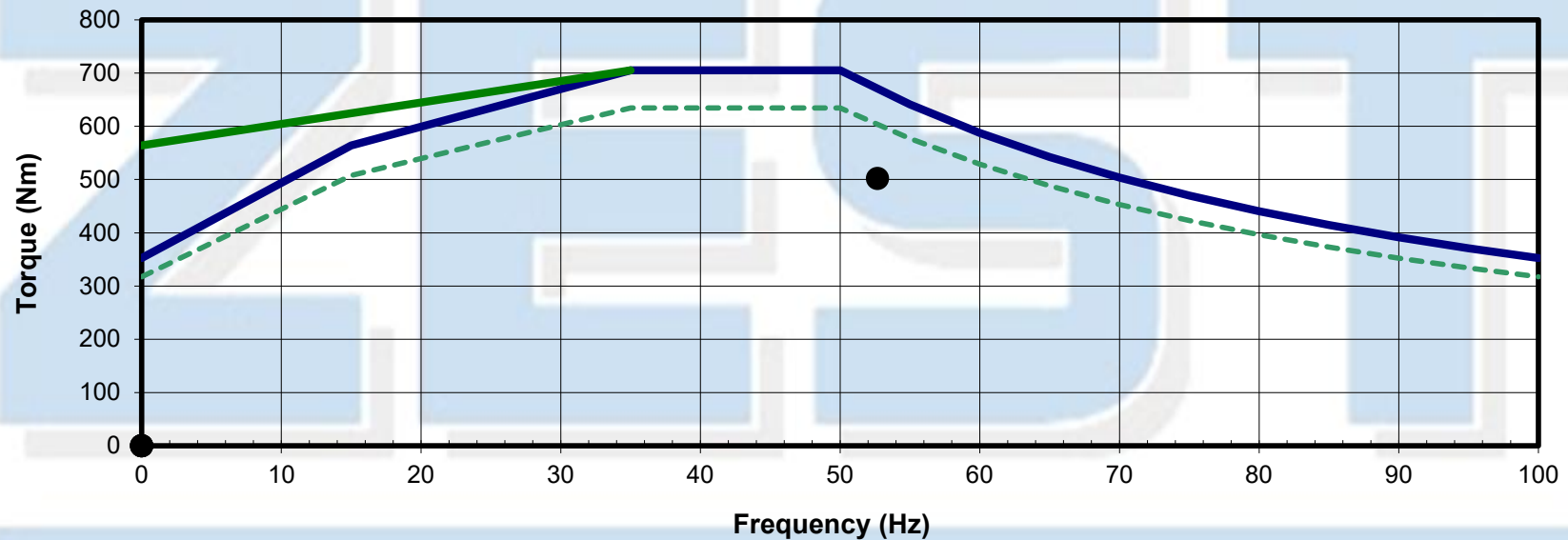
Motor Selected

Motor Kw Rating **110** kW
Motor Rated Speed **1490** rpm
Motor Full Load Torque **705.0** N.m

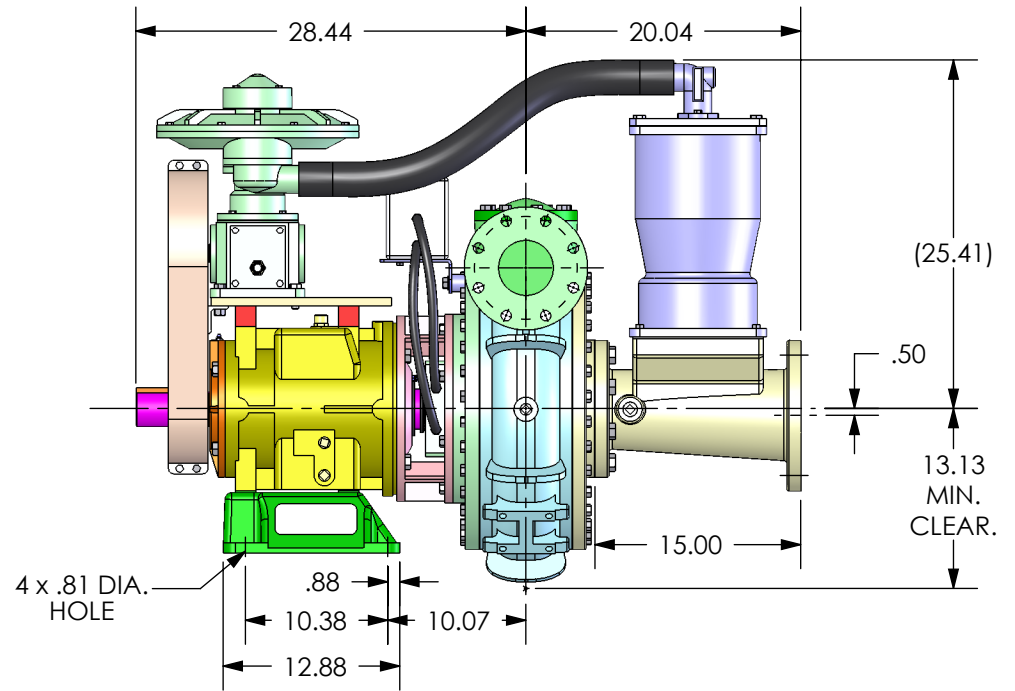
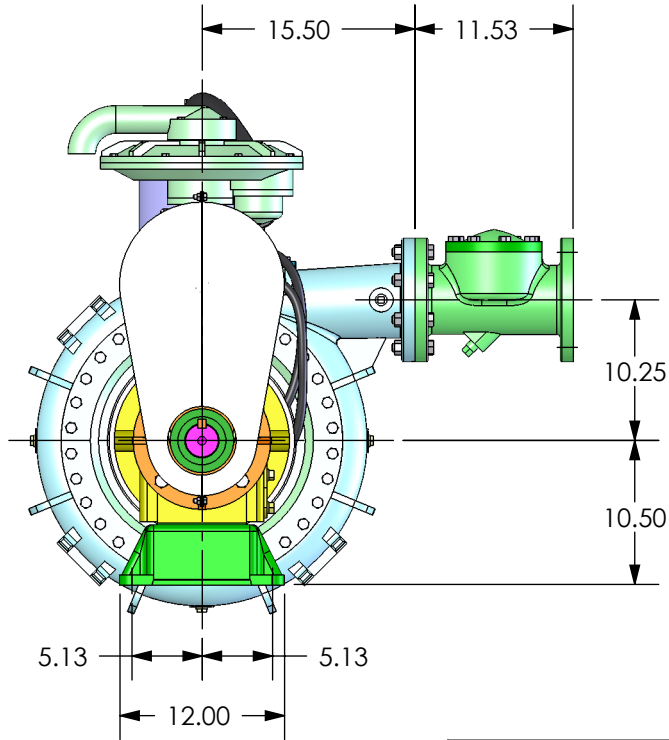
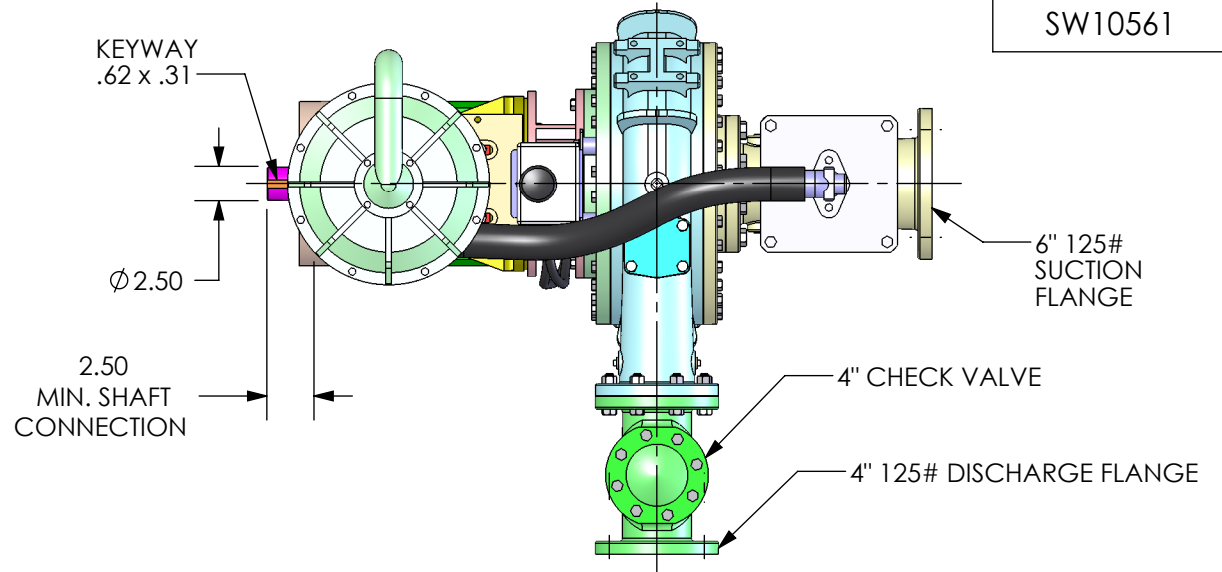
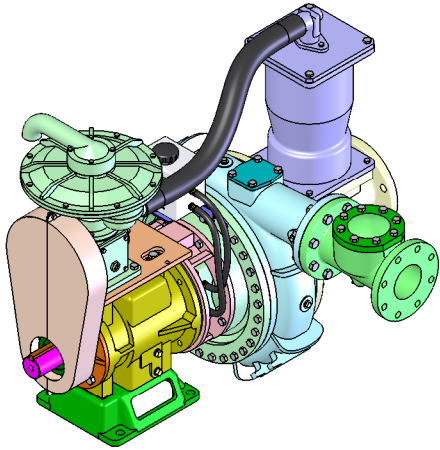
Mechanical Load Details

Specific Duty points	KW	rpm	Hz
Duty point 1	82.5	1570	52.7
Duty point 2			0.0
Duty point 3			0.0
Duty point 4			0.0
Duty point 5			0.0

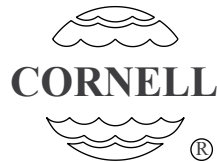
VSD Derating curve



SW10561



NOTE: 1. OVERALL DIMENSION MAY
VARY ± .12



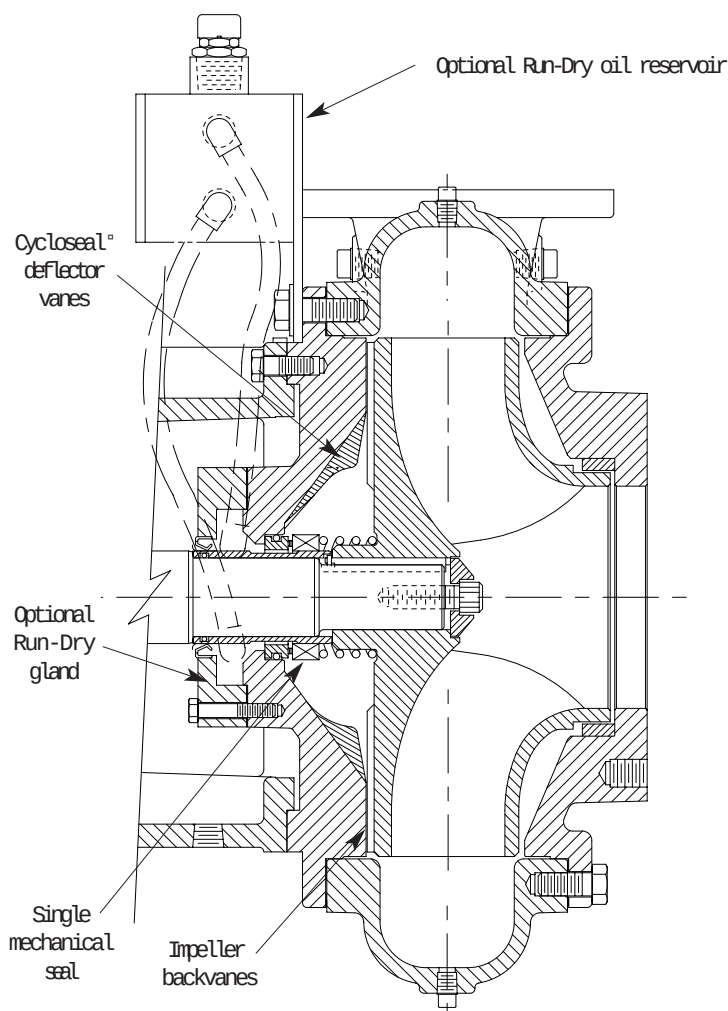
REV. NO.		DESCRIPTION				DATE	BY
		4NHTB-RP-F18DB T2 SGL CYC				Aprox. Weight. (LB.)	1272
						JOB NO.	
DR.	GH	CHECKED	DATE	11/02/09	SCALE	TO SCALE	
CORNELL PUMP COMPANY PORTLAND, OREGON							DWG. NO. SW10561

1/25/13

Cycloseal® Design

Cornell's patented Cycloseal® design, with its unique deflector vanes, works with the impeller backvanes to create a Cyclo-action. This action removes solids and abrasive material from the seal area while purging air and gas pockets extending seal life and eliminating any need for venting or water flush.

The Cycloseal® design is available in all solids handling pumps and many clear liquids, hot oil and food handling pumps.



Cycloseal® patent # 5,489,187

Cycloseal® Benefits

Extended Seal Life: Cornell's Cycloseal® design has proven itself in the toughest applications from manure slurry to starch recovery to clear water, food processing, self-priming and hot cooking oil applications in some cases more than tripling the normally expected mechanical seal life.

Run-Dry Option: All pumps equipped with Cornell's patented Cycloseal® system have an optional run-dry feature, which serves to lubricate the seal faces even when there is no liquid in the pump casing. In situations where the pump must run dry for several hours, or where the pump may suddenly lose prime without being shut off, the run-dry feature is a must.

System Savings: Cycloseal® requires no external water flush, no filters, grease cups, piping or instrumentation as normally associated with packing or double mechanical seals.

Maintenance Savings: Longer seal life which translates into less pump down time and lower maintenance costs.

John Crane Type 1 and 2 Mechanical Seal Features

Self-aligning: Automatic adjustment compensates for abnormal shaft movement, primary sealing wear, machinery tolerances and service life

Non-clogging Single Coil Spring: Greater dependability than multiple spring designs

Non-pusher Design: No dynamic o-rings to hang up. All seal movement occurs in the bellows

No Set Screws: Nothing to mar the shaft or sleeve

Temperature Limits: -40°F to 160°F (Buna);
-40°F to 400°F (Viton)

Dynamic Pressure: 350 PSIG (dependent on seal size)

Seal Faces: Tungsten carbide vs. silicon carbide or carbon vs. ceramic (other material options available)

Elastomeric Bellows: Buna-N, Viton® and other materials available

Hardware: Stainless or plated steel

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WEB PAGE WWW.CORNELLPUMP.COM



ISO9001 CERTIFIED

CORNELL REDI-PRIME®

Automatic
Priming and
Re-Priming.

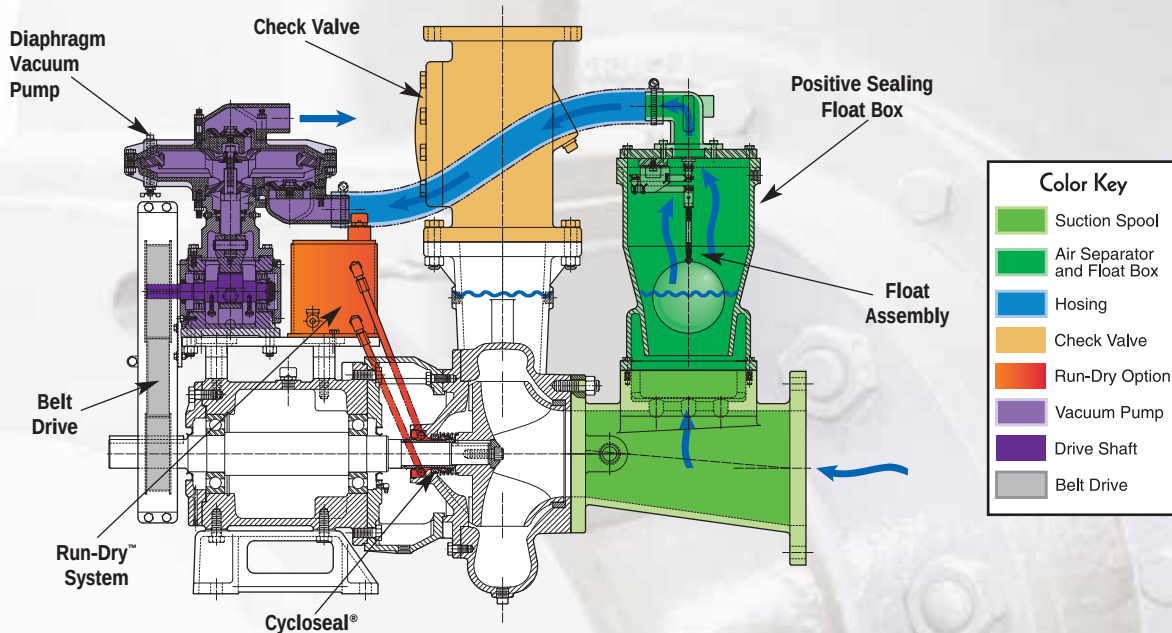
Heads of up
to 470 feet
are possible.

Valve
eliminates
any liquid
carry over.

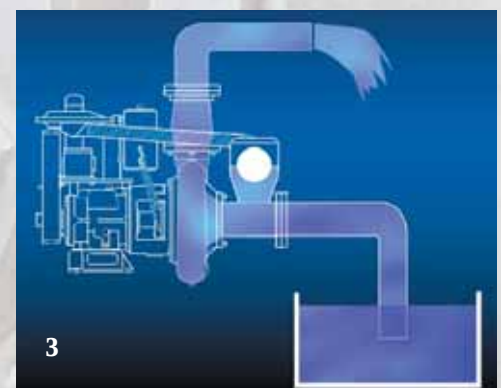
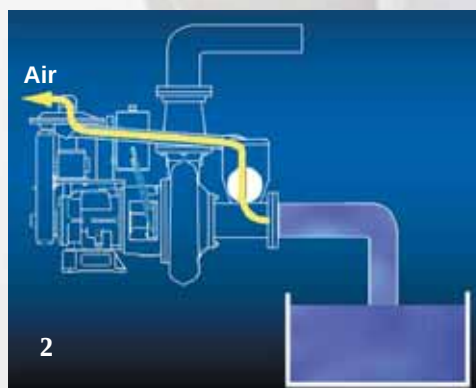
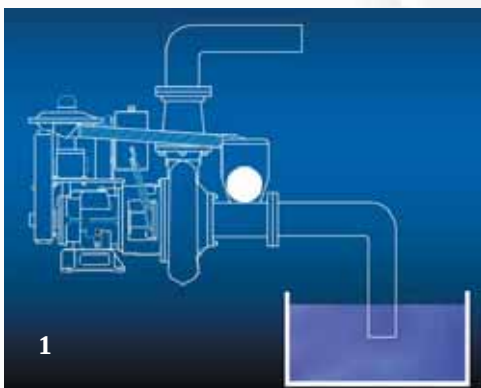


Suction Lifts
of 28 feet are
achievable.

REDI-PRIME® COMPONENTS

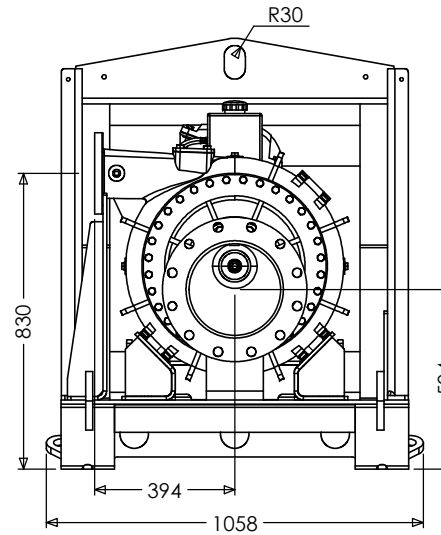
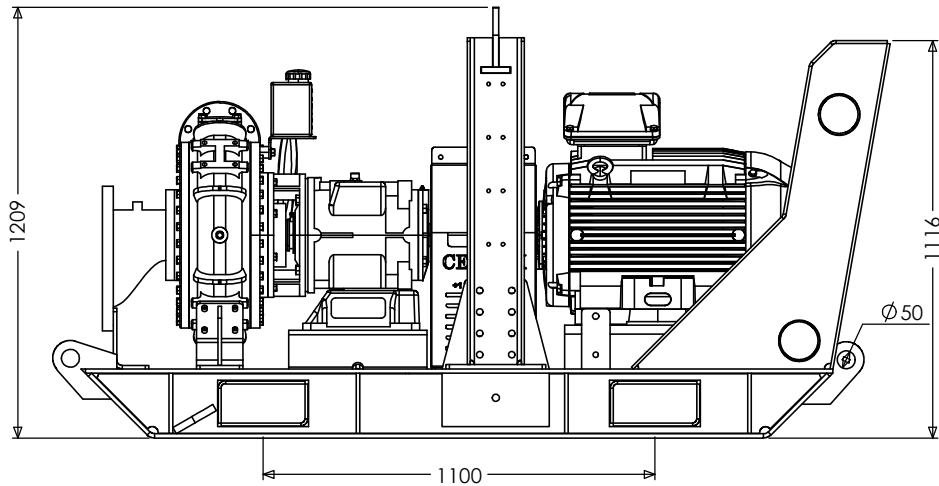


THE REDI-PRIME® SYSTEM

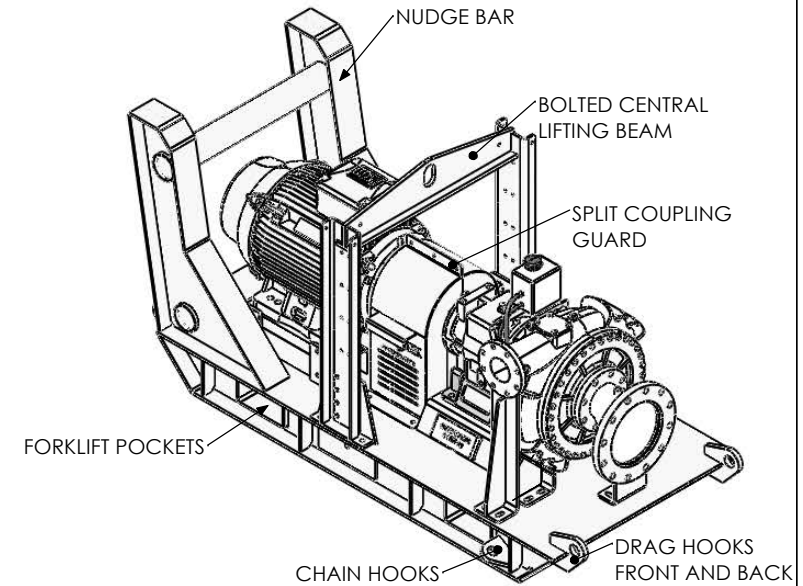
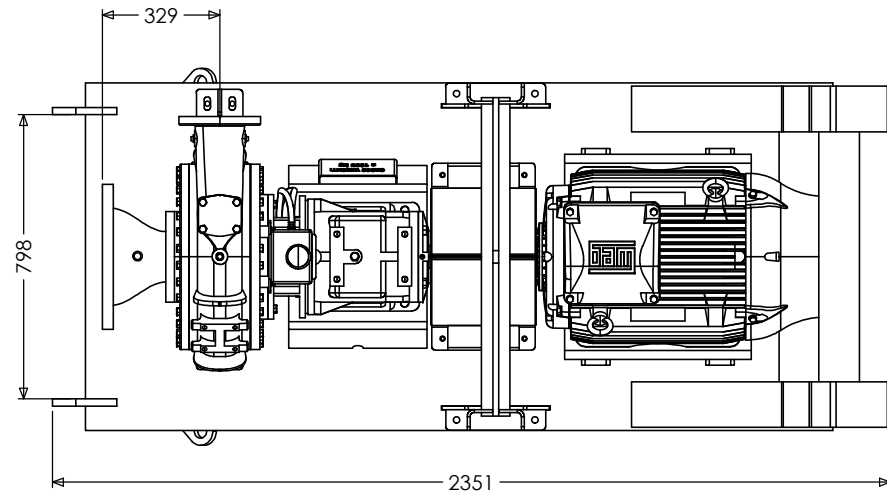


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FLANGE TABLE	SPEC	FLANGE DIA.	FLANGE TH.	P.C.D.	NO. OF BOLTS	BOLT SIZE.	BOLT HOLE DIA.
SUCTION	10" 150#	16.0"	1.19"	14.25"	12	0.88"	1.00"
DISCHARGE	4" 125#	9.0"	0.94"	7.5"	8	0.62"	0.75"

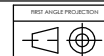


WEIGHT TABLE	
MOTOR 75KW	530 KG
PUMP 4NHTB	395 KG
BASE	634 KG
GUARD	17.25 KG
COUPLING F110	25 KG
LIFTING FRAME	54 KG
TOTAL	±1655 KG



OVER TO	TOL ±	REV.	DETAIL OF CHANGE	DATE
0 - 6	0.1	0		
6 - 30	0.2			
30 - 100	0.3			
100 - 300	0.5			
300 - 1000	0.8			
1000 - 3000	1.2			
3000 - PLUS	2.0			
ANGLES	± 0.5°			

CAD GENERATED DRAWING,
DO NOT MANUALLY UPDATE



REMOVE ALL BURRS AND
SHARP EDGES

PROJECT :
CFPA267-4NHTB-DC-F110-75KW-4P-380V50HZ-250SM

4NHTB-DC-F110-75KW-4P-380V50HZ-250SM
DRAG SKID

DO NOT SCALE DRAWING

APPROVALS	DATE
DRAWN FJM	2023/06/20
CHECKED RBG	



SIZE A3	DWG. NO. CFPA267-4NHTB-DC-F110-75KW-4P-380V50HZ-250SM		
REV. 0		SCALE:1:20	SHEET 1 OF 1