



CENTRALBIDDING
FROM CENTRAL AUCTION HOUSE

**5000135674 ONE TIME PURCHASE OF SIX (6) PUMP PACKAGES MODEL
HAC348 FOR THE BAYOU SEGNETTE PUMP STATION.**
Jefferson Parish Government

Project documents obtained from www.CentralBidding.com

05-Oct-2021 07:19:38 AM



Bid Number 50-00135674

**ONE TIME PURCHASE OF SIX (6) 48" PUMP PACKAGES MODEL HAC348
FOR THE BAYOU SEGNETTE PUMP STATION.**

BID DUE: OCTOBER 7, 2021 AT 2:00 PM

ATTENTION VENDORS!!!

Please review all pages and respond accordingly, complying with all provisions in the technical specifications and Jefferson Parish Instructions for Bidders and General Terms and Conditions. All bids must be received on the Purchasing Department's eProcurement site, www.jeffparishbids.net, by the bid due date and time. Late bids will not be accepted.

**Jefferson Parish Purchasing Department
200 Derbigny Street
General Government Building, Suite 4400
Gretna, LA 70053
Donna Reamey
Email: Dreamey@jeffparish.net
Phone: 504-364-2684**

DATE: 9/22/2021
BID NO.: 50-00135674

INVITATION TO BID
THIS IS NOT AN ORDER

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JEFFERSON PARISH

PURCHASING DEPARTMENT
P.O. BOX 9
GRETNA, LA. 70054-0009
504-364-2678

BUYER: DREAMEY@jeffparish.net

BIDS WILL BE RECEIVED ONLINE VIA WWW.JEFFPARISHBIDS.NET UNTIL 2:00 PM, 10/07/2021 AND PUBLICLY OPENED. THEREAFTER IN THE WEST BANK PURCHASING DEPT, SUITE 4400, JEFFERSON PARISH GENERAL GOVERNMENT BUILDING, 200 DERBIGNY STREET, GRETNA, LA 70053. At no charge, bidders are to submit via Jefferson Parish's electronic procurement page by visiting www.jeffparishbids.net to register for this free site. Additional instructions are included in the text box highlighting electronic procurement.

LATE BIDS WILL NOT BE ACCEPTED

NOTE: ONLY BIDS WRITTEN IN INK OR TYPEWRITTEN, AND PROPERLY SIGNED BY A MEMBER OF THE FIRM OR AUTHORIZED REPRESENTATIVE, WILL BE ACCEPTED. PENCIL AND/OR PHOTOSTATIC FIGURES OR SIGNATURES SHALL RESULT IN BID REJECTION. HOWEVER, ELECTRONIC SIGNATURES AS DEFINED IN LSA - R.S. 9:2620(8) ARE ACCEPTABLE. SIGNATURE MUST BE A SECURED DIGITAL SIGNATURE.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

THE FOLLOWING INSTRUCTIONS APPLY TO ALL BIDS

All bids submitted are subject to these instructions and general conditions and any special conditions and specifications contained herein, all of which are made part of this bid proposal reference. By submitting a bid, vendor agrees to comply with all provisions of Louisiana Law as well be in compliance with the Jefferson Parish Code of Ordinances, Louisiana Code of Ethics, applicable Jefferson Parish ethical standards and Jefferson Parish Resolution No. 113646 and/or Resolution No. 113647 as amended.

Jefferson Parish adheres to the Louisiana Code of Governmental Ethics, contained in Louisiana Revised Statutes Annotated, R.S. 42:1101, et seq. Vendor/Proposer by this submission, warrants that there are no "conflicts of interest" related to this procurement that would violate applicable Louisiana Law. Violation of the Louisiana Code of Governmental Ethics may result in rescission of contract, permit or licenses, and the imposition of fines and/or penalties, without contractual liability to the public in accordance with applicable law.

All vendors submitting bids should register as a Jefferson Parish vendor if not already yet registered. Registration forms may be downloaded from <http://purchasing.jeffparish.net> and by clicking on Vendor Information. Current W-9 forms with respective Tax Identification numbers and vendor applications may be submitted at any time; however, if your company is not registered and/or a current W-9 form is not on file, vendor registration is mandatory. Vendors may experience a delay in payment if your company is not a registered vendor with Jefferson Parish.

All quotations shall be based on F.O.B. Agency warehouse or job site, anywhere within the Parish as designated by the Purchasing Department. This provision does not apply to public works projects

JEFFERSON PARISH requires all products to be new (current) and all work must be performed according to standard practices for the project. Unless otherwise specified, no aftermarket parts will be accepted. Unless otherwise specified, all workmanship and materials must have at least one (1) year guaranty, in writing, from the date of delivery and/or acceptance of the project. Any deviations or alterations from the specifications must be indicated and/or supporting documentation supplied with bid submission.

Bidders should submit all questions in writing via email to the buyer's email address as indicated above, no later than Five (5) working days prior to the bid opening. Bid numbers should be mentioned in all requests. If submitting online, vendors may send questions via the E-Procurement site no later than Five (5) working days prior to the bid opening.

If this bid requires a pre-bid conference (see Additional Requirements section), bidders are advised that such conference will be held to allow bidders the opportunity to identify any discrepancies in the bid specifications and seek further clarification regarding instructions. The Purchasing Department will issue a written response to bidders' questions in the form of an Addendum. Please note that all official communication will be expressed in the form of an addendum.

Visit our website at [HTTP://PURCHASING.JEFFPARISH.NET](http://PURCHASING.JEFFPARISH.NET)

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All formal Addenda require written acknowledgement on the bid form by the bidder. Failure to acknowledge an Addendum on the bid form shall cause the bid to be rejected. JEFFERSON PARISH reserves the right to award bid to next lowest responsive and responsible bidder in this event.

JEFFERSON PARISH will accept one price for each item unless otherwise indicated. Two or more prices for one item will result in bid rejection. Bidders are required to complete, sign and return the bid form and/or complete and return the associated line item pricing forms as indicated. Vendors must not alter the bid forms. Doing so will cause the bid to be rejected.

A corporate resolution or written evidence of the individual signing the bid having such authority must be submitted with the bid. Failure to comply will cause bid to be rejected. For corporate entities, such written evidence may be a printout of the Louisiana Secretary of State's website listing the signatory as an officer. Such printout shall be included with the bid submission. Bids submitted by Owners or Sole Proprietorships must include certification that he or she owns the entity for which the bid is signed. This documentation must be submitted with the bid. Failure to do so will result in bid rejection.

NOTE: A sample corporate resolution can be downloaded from our website <http://purchasing.jeffparish.net> or you may provide your own document. A sample certification of sole proprietorship can also be downloaded from our website <http://purchasing.jeffparish.net> or you may provide your own document.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

A. AWARD OF CONTRACT: JEFFERSON PARISH reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination, as shall in its judgment be in the best interest of JEFFERSON PARISH. Every contract or order shall be awarded to the LOWEST RESPONSIVE and RESPONSIBLE BIDDER, taking into consideration the CONFORMITY WITH THE SPECIFICATIONS and the DELIVERY AND/OR COMPLETION DATE. SPLIT AWARDS MADE TO SEVERAL VENDORS WILL ONLY BE GRANTED TO THOSE DEEMED RESPONSIVE AND RESPONSIBLE.

All bid prices shall remain valid for 45 days. Jefferson Parish and the lowest responsive and responsible bidder(s) by mutual written consent may mutually agree to extend the deadline for award by one (1) or more extensions of thirty (30) calendar days.

PROTESTS: Only those vendors that submit bids in response to this solicitation may protest any element of the procurement, in writing to the Director of the Purchasing Department. Written protest must be received within 48 hours of the release of the bid tabulation by the Purchasing Department. After consultation, the Parish Attorney's Office will then respond to protests in writing. (For more information, please see Chapter 2, Article VII, Division 2, Sec. 2-914.1 of the Jefferson Parish Code of Ordinances.)

PREFERENCE: Unless federal funding is directly spent by Jefferson Parish for this purchase, preference is hereby given to materials, supplies, and provisions produced, manufactured or grown in Louisiana, quality being equal to articles offered by competitors outside the state. "LSA - R.S. 38:2251-2261"

B. USE OF BRAND NAMES AND STOCK NUMBERS: Where brand names and stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bids may be submitted for products of equal quality, provided brand names and stock numbers are specified. Complete product data may be required prior to award.

C. CANCELLATION OF CONTRACT: JEFFERSON PARISH reserves the right to cancel all or any part if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel any contract at anytime and for any reason by issuing a THIRTY (30) day written notice to the contractor.

For good cause and as consideration for executing a contract with Jefferson Parish, vendor conveys, sells, assigns and transfers to Jefferson Parish or its assigns all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of Louisiana, relating to the particular good or services purchased or acquired by Jefferson Parish.

D. PRICES: Jefferson Parish is exempt from paying sales tax under LSA-R.S. 47:301 (8)(c). All prices for purchases by Jefferson Parish of supplies and materials shall be quoted in the unit of measure specified and unless otherwise specified, shall be exclusive of state and local taxes. The price quoted for work shall be stated in figures. In the event there is a difference in unit prices and totals, the unit price shall prevail.

Quantities listed are for bidding purposes only. Actual requirements may be more or less than quantities listed.

Bidders are not to exclude from participation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, or sex; nor discriminate on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, or on the basis of religion, except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Act of 1964, or Title VI and VII of the Act of April 11, 1968, shall also apply. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k)(5) of the Regulations. New construction or renovation projects must comply with Section 504 of the 1973 Rehabilitation Act, as amended, in accordance with the American National Standard Institute's specifications (ANSI A17.1-1981).

DATE: 9/22/2021

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INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

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Jefferson Parish and its partners as the recipients of federal funds are fully committed to awarding a contract(s) to firm(s) that will provide high quality services and that are dedicated to diversity and to containing costs. Thus, Jefferson Parish strongly encourages the involvement of minority and/or woman-owned business enterprises (DBE's, including MBE's, WBE's and SBE's) to stimulate participation in procurement and assistance programs.

The purpose and intention of this invitation to bid is to afford all suppliers an equal opportunity to bid on all construction, maintenance, repair, operating supplies and/or equipment listed in this bid proposal. JEFFERSON PARISH WILL ACCEPT ONE BID ONLY FROM EACH VENDOR. Items bid must meet specifications.

Advertised bids will be tabulated and a copy of the tabulation will be forwarded to each responding bidder.

IN ACCORDANCE WITH STATE REGULATIONS JEFFERSON PARISH OFFERS ELECTRONIC PROCUREMENT TO ALL VENDORS

This electronic procurement system allows vendors the convenience of reviewing and submitting bids online. This is a secure site and authorized personnel have limited read access only. Bidders are to submit electronically using this free service; while the website accepts various file types, one single PDF file containing all appropriate and required bid documents is preferred. Bidders submitting uploaded images of bid responses are solely responsible for clarity. If uploaded images/documents are not legible, then bidder's submission will be rejected. Please note all requirements contained in this bid package for electronic bid submission.

Please visit our E-Procurement Page at www.jeffparishbids.net to register and view Jefferson Parish solicitations. For more information, please visit the Purchasing Department page at <http://purchasing.jeffparish.net>.

The general specifications for construction projects and the purchase of materials, services and/or supplies are those adopted by the JEFFERSON PARISH Council by Resolution No. 113646 or 113647 as amended. The general conditions adopted by this resolution shall be considered as much a part of this document as if they were written wholly herein. A copy may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, LA 70053. You may also obtain a copy by visiting the Purchasing Department webpage at <http://purchasing.jeffparish.net> and clicking on Online Forms.

ADDITIONAL REQUIREMENTS FOR THIS BID

PLEASE MATCH THE NUMBERS PRINTED IN THIS BOX WITH THE CORRESPONDING INSTRUCTIONS BELOW.

13, 15

1. All bidders must attend the MANDATORY pre-bid conference and will be required to sign in and out as evidence of attendance. In accordance with LSA R.S. 38:2212(I), all prospective bidders shall be present at the beginning of the MANDATORY pre-bid conference and shall remain in attendance for the duration of the conference. Any prospective bidder who fails to attend the conference or remain for the duration shall be prohibited from submitting a bid for the project.
2. Attendance to this pre-bid conference is optional. However, failure to attend the pre-bid conference shall not relieve the bidder of responsibility for information discussed at the conference. Furthermore, failure to attend the pre-bid conference and inspection does not relieve the successful bidder from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the specification with no additional cost to the owner.
3. Contractor must hold current applicable JEFFERSON PARISH licenses with the Department of Inspection and Code Enforcement. Contractor shall obtain any and all permits required by the JEFFERSON PARISH Department of Inspection and Code Enforcement. The contractor shall be responsible for the payment of these permits. All permits must be obtained prior to the start of the project. Contractor must also hold any and all applicable Federal and State licenses. Contractor shall be responsible for the payment of these permits and shall obtain them prior to the start of the project.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

4. A LA State Contractor's License will be required in accordance with LSA R.S. 37-2150 et. seq. and such license number will be shown on the outside of the bid electronic envelope. Failure to comply will cause the bid to be rejected. When submitting the bid electronically, the license number must be entered in the appropriate field in the electronic procurement system. Failure to comply will cause the bid to be rejected.
5. It is the bidder's responsibility to visit the job site and evaluate the job before submitting a bid.
6. Job site must be clean and free of all litter and debris daily and upon completion of the contract. Passageways must be kept clean and free of material, equipment, and debris at all times. Flammable material must be removed from the job site daily because storage will not be permitted on the premises. Precaution must be exercised at all times to safeguard the welfare of JEFFERSON PARISH and the general public.
7. **PUBLIC WORKS BIDS:** All awards for public works in excess of \$5,000.00 will be reduced to a formal contract which shall be recorded at the contractor's expense with the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. A price list of recordation costs may be obtained from the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. All awards in excess of \$25,000.00 will require both a performance and a payment bond. Unless otherwise stated in the bid specifications, the performance bond requirements shall be 100% of the contract price. Unless otherwise state in the bid specifications, the payment bond requirements shall be 100% of the contract price. Both bonds shall be supplied at the signing of the contract.
8. **NON-PUBLIC WORKS BIDS:** A performance bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The performance bond shall be supplied at the signing of the contract.
9. **NON-PUBLIC WORKS BIDS:** A payment bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The payment bond shall be supplied at the signing of the contract.
10. All bidders must comply with the requirements stated in the attached "Standard Insurance Requirements" sheet attached to this bid solicitation. Failure to comply with this instruction will result in bid rejection.
11. A bid bond will be required with bid submission in the amount of 5% of the total bid, unless otherwise stated in the bid specifications. All sureties must be in original format (no copies) When submitting a bid online, vendors must submit an electronic bid bond through the respective online clearinghouse bond management system(s) as indicated in the electronic bid solicitation on Central Auction House. No scanned paper copies of any bid bond will be accepted as part of the electronic bid submission.
12. This is a requirements contract to be provided on an as needed basis. JEFFERSON PARISH makes no representations on warranties with regard to minimum guaranteed quantities unless otherwise stated in the bid specifications.
13. Freight charges should be included in total cost when quoting. If not quoted FOB DELIVERED, freight must be quoted as a separate item. Bid may be rejected if not quoted FOB DELIVERED or if freight charges are not indicated on bid form.
14. **PUBLIC WORKS BIDS - Completed, Signed and Properly Notarized Affidavits Required;** This applies to all solicitations for construction, alteration or demolition of public buildings or projects, in conformity with the provisions contained in LSA-RS 38:2212.9, LSA-RS 38:2212.10, LSA-RS 38:2224, and Sec 2-923.1 of the Jefferson Parish Code of Ordinances. For bidding purposes, all bidders must submit with bid submission COMPLETED, SIGNED and PROPERLY NOTARIZED Affidavits, including: Non-Conviction Affidavit, Non-Collusion Affidavit, Campaign Contribution Affidavit, Debt Disclosures Affidavit and E-Verify Affidavit. For the convenience of vendors, all affidavits have been combined into one form entitled PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format, and without material alteration, in order to be compliant and for the bid to be considered responsive. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid, however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

15. NON PUBLIC WORK BIDS - Completed, Signed and Properly Notarized Affidavits Required in conformity with the provisions contained in LSA – RS 38:2224 and Sec 2-923.1 of the Jefferson Parish Code of Ordinances. For bidding purposes, all bidders must submit with bid submission COMPLETED, SIGNED and PROPERLY NOTARIZED Affidavits, including: Non-Collusion Affidavit, Debt Disclosures Affidavit and Campaign Contribution Affidavit. For the convenience of vendors, all affidavits have been combined into one form entitled NON PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format, and without material alteration, in order to be compliant and for the bid to be considered responsive. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid, however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.

16. The ensuing contract for this bid solicitation may be eligible for FEMA reimbursement and/or Federal funding/reimbursement. As such, the referenced appendix will be applicable accordingly and shall be considered a part of the bid documents. All applicable certifications must be duly completed, signed and submitted with bid submission. Failure to submit applicable certifications with bid submission will result in bid rejection.

17. For this project, the Contractor shall not pay any state or local sales or use taxes on materials and equipment which are affixed and made part of the immovable property of the project or which is permanently incorporated in the project (hereinafter referred to as "applicable materials and equipment."). All purchases of applicable materials or equipment shall be made by the contractor on behalf of and as the agent of Jefferson Parish (Owner), a political subdivision of the State of Louisiana. No state and local sales and use taxes are owed on applicable materials and equipment under the provisions of Act 1029 of the 1991 Regular Session - Louisiana Revised Statute 47:301(8)(c). Owner will furnish to contractor a certificate form which certifies that Owner is not required to pay such state or local sales and use taxes, and contractor shall furnish a copy of such certificate to all vendors or suppliers of the applicable materials and equipment, and report to Owner the amount of taxes not incurred.

It shall be the duty of every parish officer, employee, department, agency, special district, board, and commission: and the duty of every contractor, subcontractor, and licensee of the parish, and the duty of every applicant for certification of eligibility for a parish contract or program, to cooperate with the Inspector General in any investigation, audit, inspection, performance review, or hearing pursuant to JPCO 2-155.10(19). By signing this document, every corporation, partnership, or person contracting with PARISH, whether by cooperative endeavor, intergovernmental agreement, bid, proposal, application or solicitation for a parish contract, and every application for certification of eligibility for a parish contract or program, attests that it understands and will abide by all provisions of JPCO 2-155.10.

See Page 1 for Conflicts of Interest Statement

DATE: 9/22/2021

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BID NO.: 50-00135674

BID FORM
Non Public Works

All Public Work Projects are required to use the Louisiana Uniform Public Work Bid Form

All prices must be held firm unless an escalation provision is requested in this bid. Jefferson Parish will allow one escalation during the term of the contract, which may not exceed the U.S. Bureau of Labor Statistics National Index for all Urban Consumers, unadjusted 12 month figure. The most recently published figure issued at the time an adjustment is requested will be used. A request must be made in writing by the vendor, and the escalation will only be applied to purchases made after the request is made.

Are you requesting an escalation provision?

YES ☒ NO ☐

MAXIMUM ESCALATION PERCENTAGE REQUESTED 15 %

INITIAL BID PRICES WILL REMAIN FIRM THROUGH THE DATE OF 10-06-2022

For the purposes of comparison of bids when an escalation provision is requested, Jefferson Parish will apply the maximum escalation percentage quoted by the bidder to the period to which it is applied in the bid. The initial price and the escalation will be used to calculate the total bid price. It will be assumed, for comparison of prices only, that an equal amount of material or labor is purchased each month throughout the entire contract.

DELIVERY: FOB JEFFERSON PARISH

INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES

July 15, 2022
or 40 weeks from order

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable) _____

THIS SECTION MUST BE COMPLETED BY BIDDER:

FIRM NAME: Better Pumps and Solutions, LLC

ADDRESS: 12203 Airline Highway

CITY, STATE: Baton Rouge, LA ZIP: 70817

TELEPHONE: (225) 319-7260 FAX: (225) 319-7264

EMAIL ADDRESS: jatol@betterpumps.com

In the event that addenda are issued with this bid, bidders MUST acknowledge all addenda on the bid form. Bidder must acknowledge receipt of an addendum on the bid form by placing the addendum number as indicated. Failure to acknowledge any addendum on the bid form will result in bid rejection.

Acknowledge Receipt of Addenda: NUMBER: 1

NUMBER: _____

NUMBER: _____

NUMBER: _____

TOTAL PRICE OF ALL BID ITEMS: \$ 1,990,998.00

AUTHORIZED SIGNATURE: [Signature]

TITLE: President

Joseph Ato1
Printed Name

SIGNING INDICATES YOU HAVE READ AND COMPLY WITH THE INSTRUCTIONS AND CONDITIONS.

NOTE: All bids should be returned with the BID NUMBER and BID OPENING DATE indicated on the outside of the envelope submitted to the Purchasing Department.

DATE: 9/22/2021

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INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00135674

SEALED BID


ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
1	6.00	EA	<p>ONE TIME PURCHASE OF SIX (6) 48" PUMP PACKAGES MODEL HAC348 FOR THE BAYOU SEGNETTE PUMP STATION.</p> <p>0010 48" PUMP PACKAGE *PURCHASE OF ALL STATIONARY EMERGENCY STANDBY FLOOD CONTROL PUMPING EQUIPMENT FOR THE BAYOU SEGNETTE PUMP STATION</p> <p>DELIVER TO: AMES PUMP STATION 5100 ROCHESTER DR MARRERO, LA 70072</p> <p>*SPECS ATTACHED</p>	<p><i>\$331,833.00</i></p>	<p><i>\$1,990,998.00</i></p>

**RESOLUTION OF THE MEMBERS
OF
BETTER PUMPS & SOLUTIONS, LLC**

A meeting of the Members of Better Pumps & Solutions, LLC was held on the 24 day of August, 2015 at which time the Members waived all requirements of notice of the date, time and place, as well as the purpose of the meeting and after being called to order by Brad Dutruch, Manager, the following resolutions were unanimously adopted:

ON MOTION DULY MADE AND SECONDED, IT WAS UNANIMOUSLY RESOLVED, that Joseph Atol, IV, is hereby appointed as a Manager of Better Pumps & Solutions, LLC, There being no further business before the Members, the meeting was adjourned.

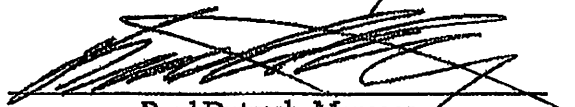
There being no further business before the Members, the meeting was adjourned.


Brad Dutruch, Manager

CERTIFICATE

The above and foregoing is a true and correct copy of the Resolutions that were unanimously adopted by the Members of Better Pumps & Solutions, LLC. at a special meeting of the Members which was held the 24 day of August, 2015 attended by the Members after they had specifically waived all requirements for notice of the meeting and had consented for any business to be brought up before the meeting; and, since the adoption of this Resolution, it has neither been rescinded, vacated, nor set aside and accordingly remains in full force and effect.

Baton Rouge, Louisiana this 24 day of August, 2015.


Brad Dutruch, Manager

Non-Public Works Bid

AFFIDAVIT

STATE OF Louisiana

PARISH/COUNTY OF East Baton Rouge

BEFORE ME, the undersigned authority, personally came and appeared: Joe Atol, IV


_____, (Affiant) who after being by me duly sworn, deposed and said that he/she is the fully authorized President of Better Pumps & Solutions LLC (Entity), the party who submitted a bid in response to Bid Number JPP-50-00135674, to the Parish of Jefferson.

Affiant further said:

Campaign Contribution Disclosures

(Choose A or B, if option A is indicated please include the required attachment):


Choice A _____ Attached hereto is a list of all campaign contributions, including the date and amount of each contribution, made to current or former elected officials of the Parish of Jefferson by Entity, Affiant, and/or officers, directors and owners, including employees, owning 25% or more of the Entity during the two-year period immediately preceding the date of this affidavit or the current term of the elected official, whichever is greater. Further, Entity, Affiant, and/or Entity Owners have not made any contributions to or in support of current or former members of the Jefferson Parish Council or the Jefferson Parish President through or in the name of another person or legal entity, either directly or indirectly.

Choice B  there are NO campaign contributions made which would require disclosure under Choice A of this section.

Debt Disclosures

(Choose A or B, if option A is indicated please include the required attachment):

Choice A _____ Attached hereto is a list of all debts owed by the affiant to any elected or appointed official of the Parish of Jefferson, and any and all debts owed by any elected or appointed official of the Parish to the Affiant.

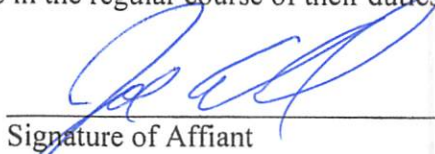
Choice B  _____ There are NO debts which would require disclosure under Choice A of this section.

Affiant further said:

That Affiant has employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the Affiant whose services in connection with the construction, alteration or demolition of the public building or project or in securing the public contract were in the regular course of their duties for Affiant; and

[The remainder of this page is intentionally left blank.]

That no part of the contract price received by Affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the Affiant whose services in connection with the construction, alteration or demolition of the public building or project were in the regular course of their duties for Affiant.


Signature of Affiant

Joe Ato
Printed Name of Affiant

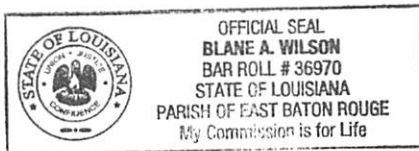
SWORN AND SUBSCRIBED TO BEFORE ME
ON THE 5th DAY OF October, 2021.


Notary Public

Blane Wilson
Printed Name of Notary

36970
Notary/Bar Roll Number

My commission expires @ Death.



PUMPHEAD
D&D 42BPAX-400

Specifications for
D&D Model 42BPAX-400
42" Axial Flow Pumphead
Thailand – 42BPAX

General Description

These specifications describe our **42" Hydraulically Driven Submersible Axial Flow Pumphead**. It is capable of producing 55,482 gpm (3.5m³/sec) @ 19.69' (6m) TDH. It can pump water with a little particle, water temp 10 – 45°C.

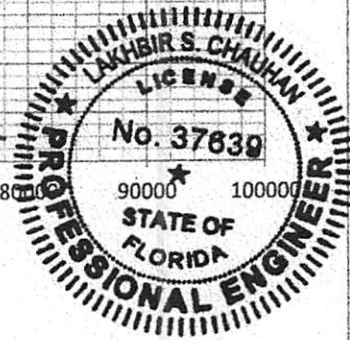
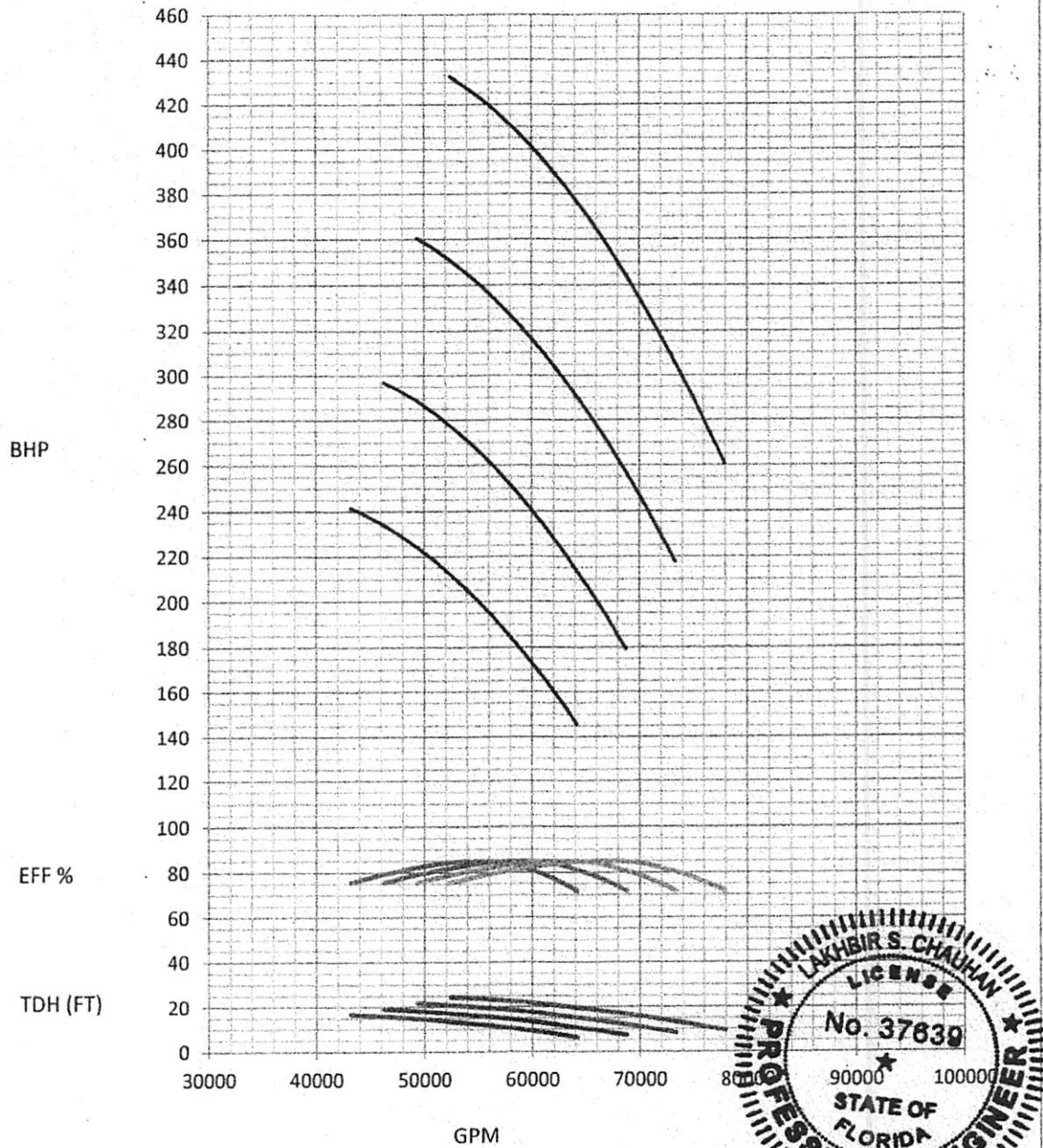
Pumphead – 42" Axial

- 42" vertical discharge
- Straight or 45° inlet bell
- Propeller: 42" diameter - stainless steel
- Hydraulic motor: 255 gpm @ 2,500 psi / 173 bar
- Hydraulic oil lubricated bearing carrier
- Replaceable stainless steel wear ring
- Stainless steel pump shaft
- Angular contact bearings
- Viton o-rings
- Viton lip seal
- Mechanical seal
- Vane-type hydraulic motor

Testing

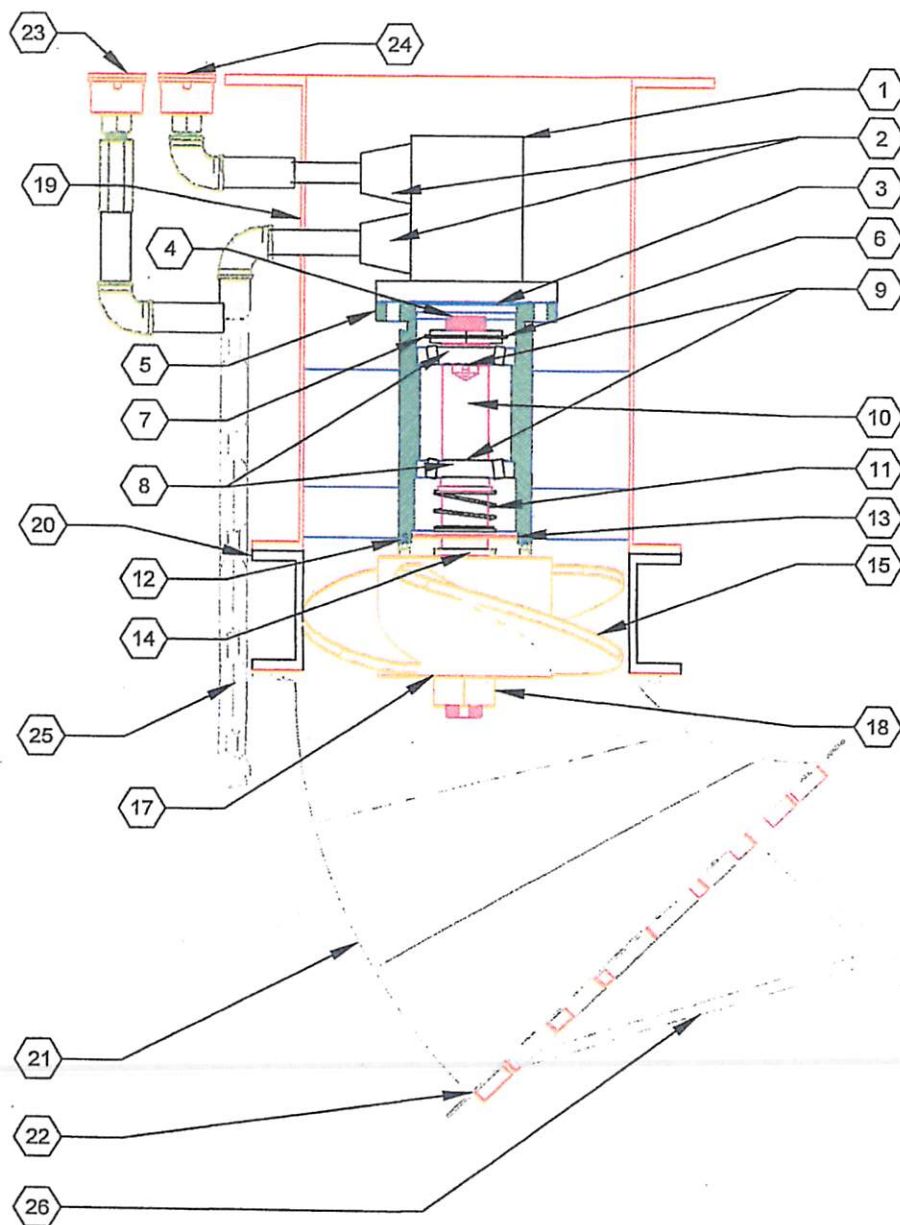
Testing is performed according to the procedures described in the "Hydraulic Institute Standards", USA

D & D 42" Hyd Pump @ 350, 375, 400, 425 RPM



Lakhbir Chaudhary

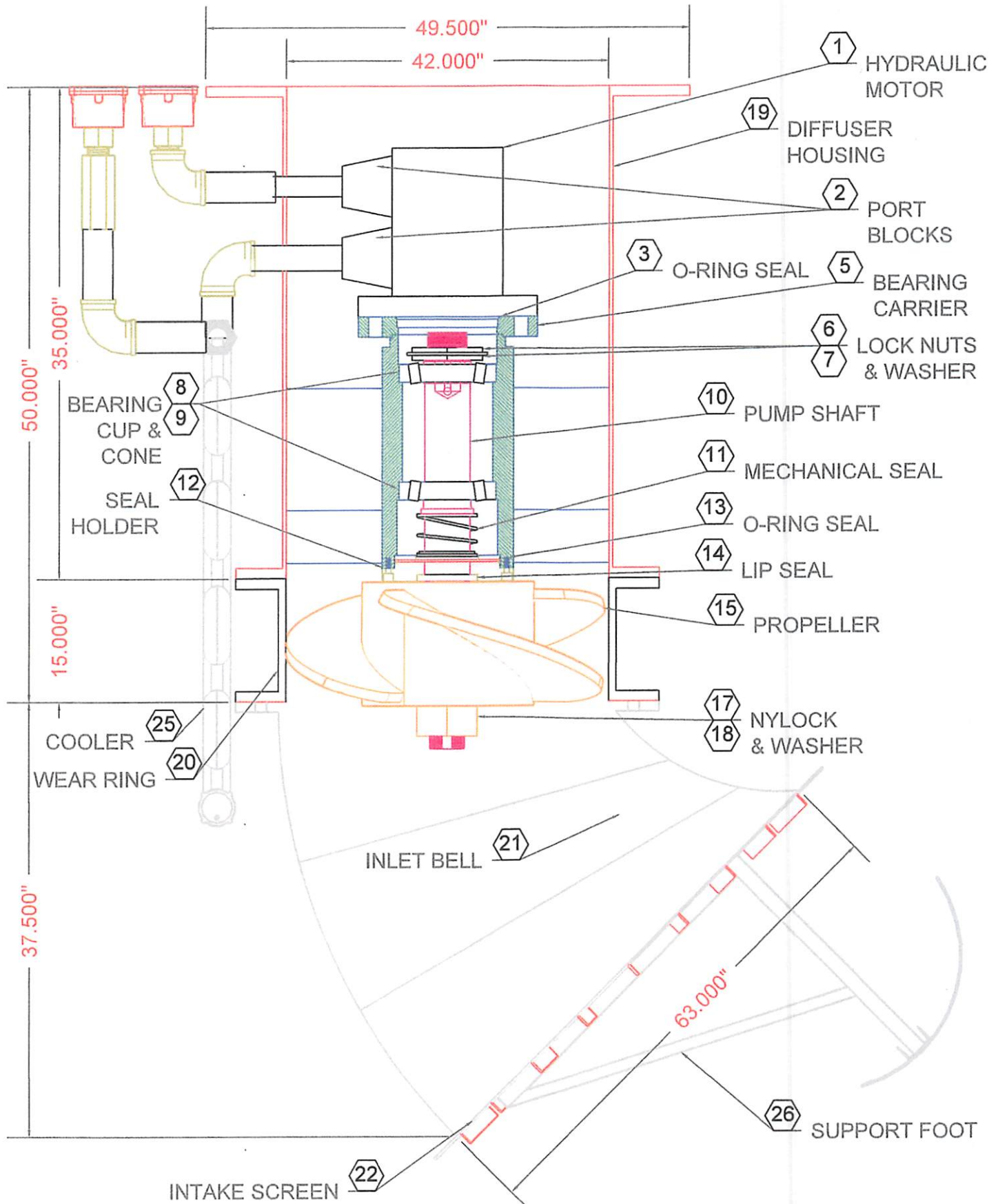
1/4/2018



42-BP PARTS BREAKDOWN

ITEM #	PART #	DESCRIPTION
1.	42BPAX-1001	HYDRAULIC MOTOR
2.	42BPAX-1002	PORT BLOCK (2)
3.	42BPAX-1003V	VITON O-RING
4.	42BPAX-1004	MOTOR KEY
5.	42BPAX-1005	BEARING CARRIER
6.	42BPAX-1006	LOCK NUT (2)
7.	42BPAX-1007	LOCK WASHER
8.	42BPAX-1008	7321 BEARING (2)
9.	42BPAX-1009	BEARING RACE (2)
10.	42BPAX-1010SS	SHAFT, SS
11.	42BPAX-1011	MECHANICAL SEAL
12.	42BPAX-1012SS	SEAL HOLDER, SS
13.	42BPAX-1013V	VITON O-RING
14.	42BPAX-1014	LIP SEAL
15.	42BPAX-1015SS	SS PROPELLER
16.	42BPAX-1016SS	PROPELLER KEY, SS
17.	42BPAX-1017SS	FLAT WASHER, SS
18.	42BPAX-1018SS	NYLOCK, SS
19.	42BPAX-1019	DIFFUSER HOUSING
20.	42BPAX-1020	WEAR RING
21.	42BPAX-1021	INLET BELL HOUSING
22.	42BPAX-1022	INTAKE SCREEN
23.	42BPAX-1023	QUICK COUPLER (R)
24.	42BPAX-1024	QUICK COUPLER (P)
25.	42BPAX-1025	COOLER
26.	42BPAX-1026	SUPPORT FOOT

42-BP AXIAL FLOW



42" BP with HYDRAULIC COOLER

HYDRAULIC OIL QUICK
CONNECT COUPLINGS

Connect to hose, 1" –
2 x 50' length

DISCHARGE

STATIONARY VANES

HYDRAULIC MOTOR

45° INTAKE BELL

PROPELLER

INTAKE

SUPPORT

REPLACEABLE
S/S LINER



MATERIAL:

DRAWN BY:
GREGG

DATE: 05/18/2017

SCALE: 1" = 1'-0"

WO #:

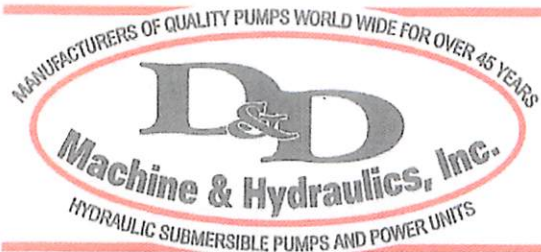
PUMP CALCULATIONS
D&D 42BPAX-400

PREL. HYDRAULIC CALCULATIONS								
FLOW RATE WATER PUMP				55,482	GPM	3.5	M ³ /sec	
TDH				19.686	FT	6	M	
MIN PUMP EFF				0.82				
WATER PUMP RPM				400	RPM			
MIN WATER PUMP HP				336.36				
WATER PUMP DESIGN HP				353.17	HP			
TORQUE REQD				55647	LB-IN	4637	ft-lbs	
OPERATING PRESSURE				2500.00	PSI			
DISPLACEMENT				139.79	IN ³ /REV			
HYD MOTOR EFF				0.95				
ACTUAL DISPL				147.14	IN ³ /REV			
TOTAL OIL FLOW REQUIRED				254.79	GALLONS		HYD MOTOR	
HP INPUT TO HYD MOTOR				371.76	HP			
HYD PUMP EFF				0.95				
HP INPUT TO THE HYD PUMP				391.33	HP		HYD PUMP	
LINE LOSSES				200.00	PSI			
LOSS OF HP				29.7	HP			
MIN NET ENGINE OUTPUT HP REQD				484	HP		DIESEL ENGINE	

ANGULAR BEARING CALCULATIONS

Shaft Design							
Torque Approach				Resistance to Twisting Method			
T	HP*5250/RPM			D=(P/N)^.333*4			
D=	(60*P/N)^.333		The shaft will not deflect more than 1 deg in 20 D				
P	400	HP					
N	400	RPM					
D	3.91	in					
Use	3.91	in					
DOWN THRUST							
				Prop Wt			
PROP DIA		42 IN		HUB DIA		22.68	in
TDH		20 FT		BLADE LENGTH		9.66	in
SHAFT LENGTH		60 IN		Blade width		6.415	in
SHAFT DIA		3.91 IN		Blade thickness		0.5	in
				# blades		4	
SHAFT WT		200.6 LBS		Wt of Blades		34.7	lbs
PROP WT		262.8 LBS		Wt of Hub		209.5	lbs
PROP AREA		1377.7 in^2				15.1	lbs
Thrust		11,940 lbs				3.5	lbs
Down Thrust		12,666 lbs		Prop Wt		262.8	lbs
Bearing Rating Life Calculations							
Bearing 7321 BECBP							
"Rating life" is the bearing life calculated for 90% reliability.							
The basic formula for calculating bearing L10 rating life is:							
L10= (C/P)^3*10^6/60/N							
C= Dynamic Capacity (lbs)				83000	lbs		
P= Equivalent Bearing Load (LBS)				7394.6			
L10= Adjusted Life of Bearings							
N=Rotational Speed in Rev/min							
N	400	RPM					
Axial Load=	Pa	12,666	lbs				
Radial Load=	Pr	500	lbs				
L10=	58921	Hrs		The Bearing Life is greater than 50000 Hrs			

POWER UNIT



D&D Machine & Hydraulics, Inc.
10945 Metro Parkway SE
Fort Myers, Florida 33966-1202
239-275-7177 • Fax 239-275-5350
E-mail: marketing@ddpumps.com
www.ddpumps.com

**Specifications for
D&D Model 1500D Power Unit
Skid-Mounted
Thailand – 1500x42**

Skid-mounted with lifting frame

- 360-gallon fuel tank
- 12-volt battery
- Heavy-duty battery box

Engine

- John Deere 6135HF485 Tier 3 diesel engine
- 600 HP @ 2,100 rpm
- Fully-automatic safety shutdowns for low engine oil pressure and engine temperature
- Tachometer and hour meter
- Residential muffler / silencer
- Variable-speed engine throttle control
- Can Plus 750 Automatic Controller

Hydraulic System

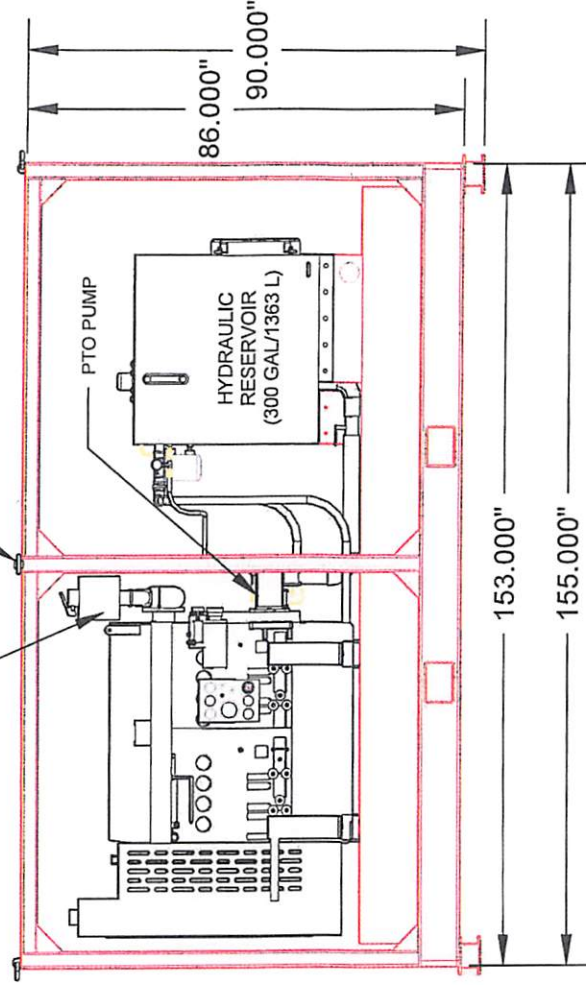
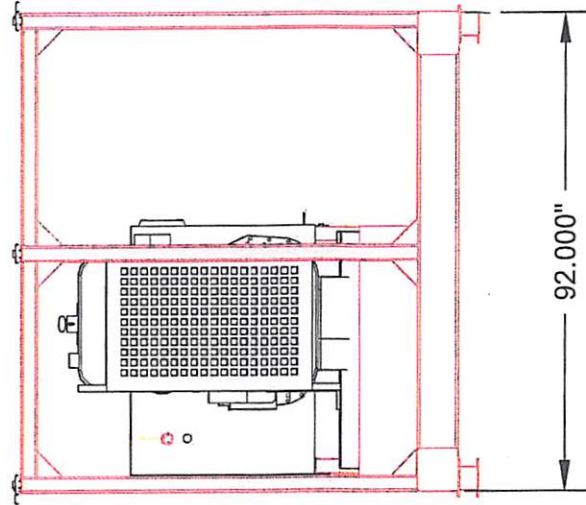
- Hydraulic pump: 255 gpm @ 2,500 psi / 173 bar
- 300-gallon hydraulic tank
- Built-in strainer, 100 micron
- Return line filters (spin-on type), 25 micron
- Relief valve, pre-set at factory
- Fully-automatic safety shutdowns for low hydraulic oil level and hydraulic oil temperature
- Environmentally friendly (zinc-free) hydraulic oil, filtered to Hydraulic Institute Specs*
- System monitor pressure gauge, liquid-filled stainless steel
- Filter-style reservoir breather cap

*Full biodegradable oil is available upon request

1500 POWER UNIT - 15,860 LBS (ADD FUEL) 2600 LBS

NOTE: MUFFLER TO BE
REMOVED FOR SHIPMENT

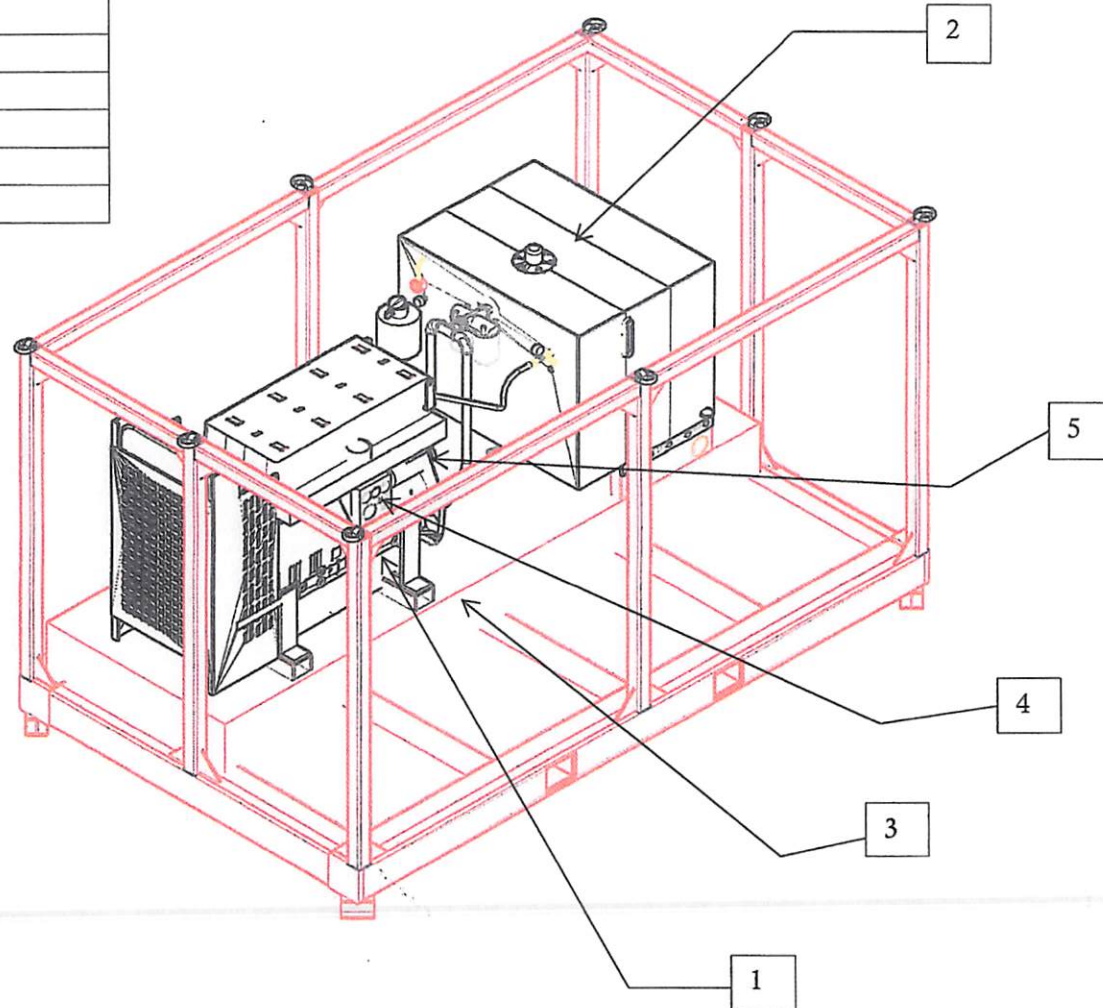
LIFT EYE (TYP.)



MATERIAL:	DRAWN BY: GREGG	DATE: 04/20/2017
	SCALE: 3/8" = 1'-0"	WO #:

1500 POWER UNIT

ITEM #	DESCRIPTION
1	JOHN DEERE ENGINE
2	HYDRAULIC TANK
3	FUEL TANK
4	CONTROL PANEL
5	HYDRAULIC PUMP



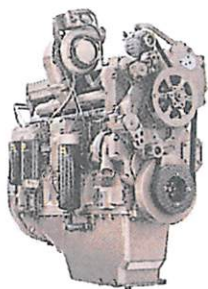
MATERIAL:	DRAWN BY: GREGG	DATE: 04/20/2017
	SCALE: 3/8"=1'-0"	WO #:

DIESEL ENGINE
JOHN DEERE 6135HF-485

PowerTech Plus

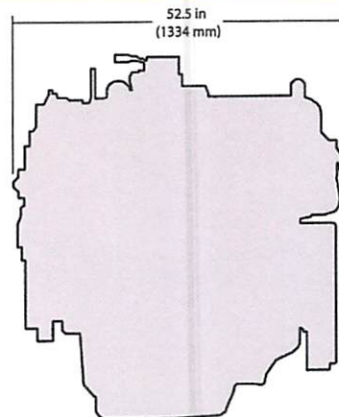
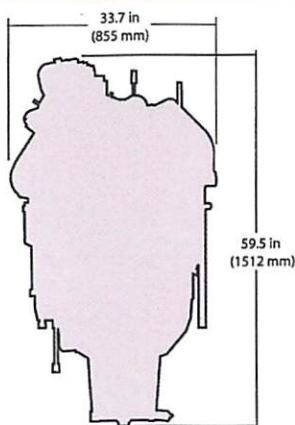
6135H Diesel Engine

Industrial Engine Specifications



6135H shown

Dimensions



Certifications

CARB
EPA Tier 3
EU Stage III A

General data

Model	6135HF485	Aspiration	Turbocharged and air-to-air aftercooled
Number of cylinders	6	Length - mm (in)	1334 (52.5)
Displacement - L (cu in)	13.5 (824)	Width - mm (in)	855 (33.7)
Bore and Stroke-- mm (in)	132 x 165 (5.20 x 6.50)	Height-- mm (in)	1512 (59.5)
Compression Ratio	16.0:1	Weight, dry-- kg (lb)	1493 (3291)
Engine Type	In-line, 4-Cycle		

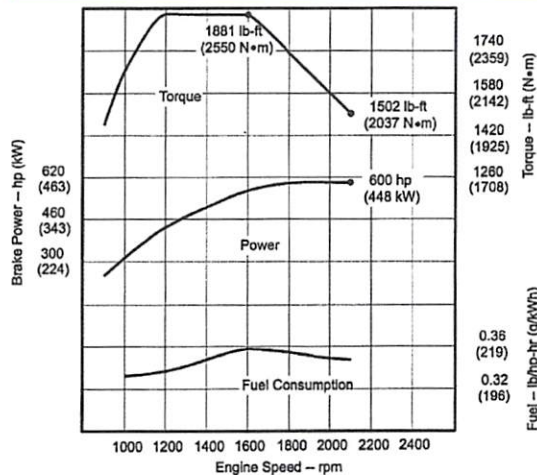
Intermittent BHP is the power rating for variable speed and load applications where full power is required intermittently.

Heavy duty - see application ratings/definitions, engine performance curves.

Continuous BHP is the power rating for applications operating under a constant load and speed for long periods of time.

Power output is within + or - 5% at standard SAE J 1995 and ISO 3046.

Performance curve



Performance data

Intermittent rated speed	448 kW (601 hp) @ 2100 rpm
Peak power	448 kW (601 hp) @ 2100 rpm
Power bulge %	0% @ NA rpm
Peak torque	2550 N.m (1881 ft-lb) @ 1275 rpm
Torque rise %	25% @ 1275 rpm

Features and benefits

4-Valve Cylinder Head

- The 4-valve cylinder head provides excellent airflow resulting in greater low-speed torque and better transient response. Cross flow design

Electronic Unit Injector (EUI) and Engine Control Unit (ECU)

- The EUI fuel system provides variable common-rail pressure, multiple injections, and higher injection pressures, up to 2000 bar (29,000 psi). It also controls fuel injection timing and provides precise control for start, duration, and end of injection

Cooled Exhaust Gas Recirculation (EGR)

- EGR cools and mixes measured amounts of cooled exhaust gas with incoming fresh air to lower peak combustion temperatures, thereby reducing NOx

Variable Geometry Turbocharger (VGT)

- Varies exhaust pressure based on load and speed to insure proper EGR flow; greater low-speed torque, quicker transient response, higher peak torque, and best-in-class fuel economy

Air-to-Air Aftercooled

- This is the most efficient method of cooling intake air to help reduce engine emissions while maintaining low-speed torque, transient response time, and peak torque. It enables an engine to meet emissions regulations with better fuel economy and the lowest installed costs

Compact Size

- Horsepower/displacement ratio is best-in-class
- Lower installed cost
- Mounting points are the same as Tier 2/Stage II engine models

Engine Performance

- Multiple rated speeds to further reduce noise and improve fuel economy
- New higher peak torque ratings
- Better transient response time
- Greater levels of low speed torque
- Higher levels of power bulge

John Deere Electronic Engine Controls

- Electronic engine controls monitor critical engine functions, providing warning and/or shutdown to prevent costly engine repairs and eliminate the need for add-on governing components all lowering total installed costs. Snapshot diagnostic data that can be retrieved using commonly available diagnostic service tools
- Controls utilize new common wiring interface connector for vehicles or available OEM instrumentation packages; new solid conduit and "T" connectors to reduce wiring stress and provide greater durability and improved appearance
- Factory-installed, engine mounted ECU or remote-mounted ECU comes with wiring harness and associated components. Industry-standard SAE J1939 interface communicates with other vehicle systems, eliminating redundant sensors and reducing vehicle installed cost

Additional Features

- Gear-driven auxiliary drives; 500-hour oil change; self-adjusting poly-vee fan drive; R.H. and L.H. engine-mounted fuel filters; single-piece low friction piston; optional rear PTO; low-pressure fuel system with "auto-prime" feature; directed top-liner cooling

John Deere Power Systems
3801 W. Ridgeway Ave.
PO Box 5100
Waterloo, IA 50704-5100
Phone: 1-800-533-6446
Fax: 319.292.5075

John Deere Power Systems
Usine de Saran
La Foulonnerie - B.P. 11.13
45401 Fleury les Aubrais Cedex
France
Phone: 33.2.38.82.61.19
Fax: 33.2.38.82.60.00

All values at rated speed and power with standard options unless otherwise noted. Specifications and design subject to change without notice.

Litho in U.S.A. (10-03) © 2010 JOHN DEERE



JOHN DEERE

ENGINE PERFORMANCE CURVE

Rating: Gross Power
Application: Industrial - Intermittent
Power Bulge - 0%
Torque Rise - 25%

PowerTech Plus™ 13.5 L Engine

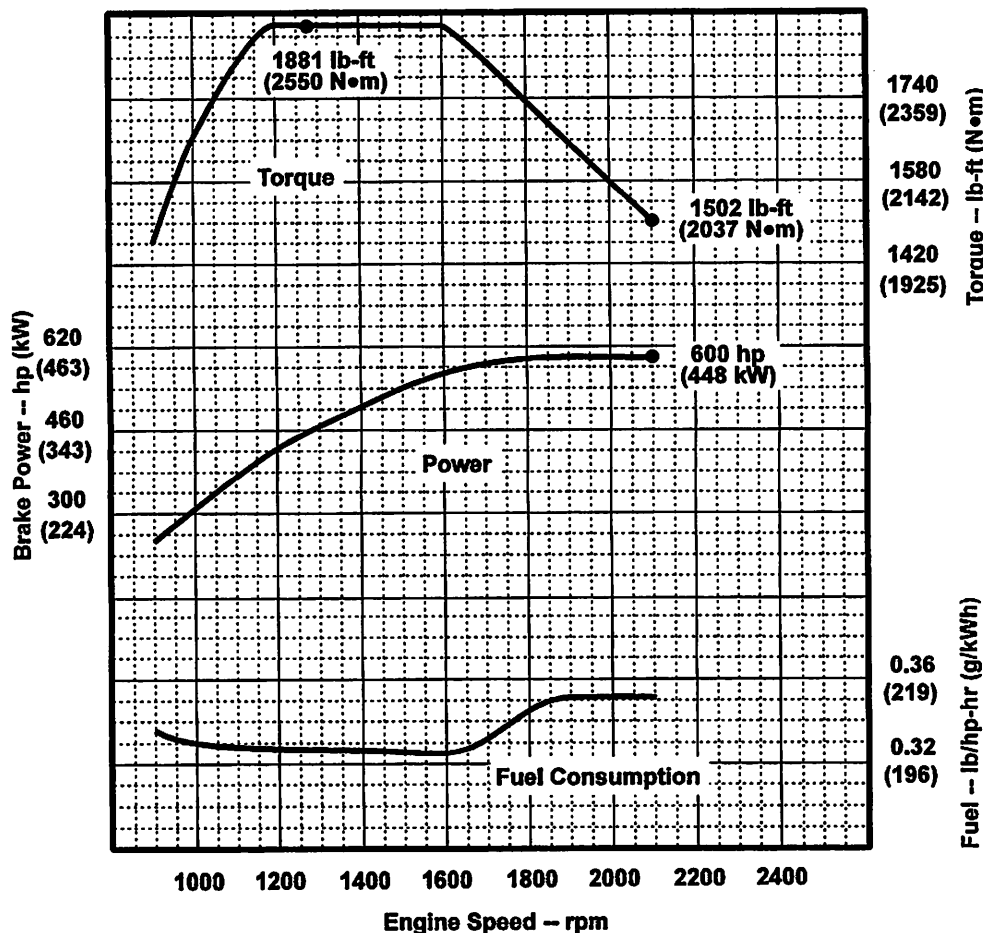
Model: 6135HF485

JD Electronic Control

600 hp @ 2100 rpm

448 kW @ 2100 rpm

[See Option Code Table]



STANDARD CONDITIONS

Air Intake Restriction 12 in.H₂O (3 kPa)
Exhaust Back Pressure 30 in.H₂O (7.5 kPa)

Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:

77 °F (25 °C) air inlet temperature
29.31 in.Hg (99 kPa) barometer
104 °F (40 °C) fuel inlet temperature
0.853 fuel specific gravity @ 60 °F (15.5 °C)

Conversion factors:

Power: kW = hp x 0.746

Fuel: 1 gal = 7.1 lb, 1 L = 0.85 kg

Torque: N·m = lb-ft x 1.356

All values are from currently available data and are subject to change without notice.

Notes:

Tier-3 Emission Certifications:

Certified by:

CARB; EPA; EU
Ref: Engine Emission Label

Brian L. Carlson
26 April 2006

* Revised Data

Curve: 6135HF485600_2100_0_25 Sheet 1 of 2
April 2006

General Data

Model	6135HF485
Number of Cylinders	6
Bore and Stroke—in. (mm)	5.20 (132) x 6.50 (165)
Displacement—in. ³ (L)	824 (13.5)
Compression Ratio	16.0 : 1
Valves per Cylinder—Intake/Exhaust	2 / 2
Firing Order	1-5-3-6-2-4
Combustion System	Unit Injection
Engine Type	In-line, 4-Cycle
Aspiration	Turbocharged
Charge Air Cooling System	Air-to-Air
Engine Crankcase Vent System	Open

Physical Data

Length—in. (mm)	52.5 (1334)
Width—in. (mm)	33.7 (855)
Height—in. (mm)	59.5 (1512)
Weight, dry—lb (kg)	3292 (1493)
(Includes flywheel housing, flywheel & electrics)	
Center of Gravity Location	
From Rear Face of Block (X-axis)—in. (mm)	20.0 (507)
Right of Crankshaft (Y-axis)—in. (mm)	0.1 (2)
Above Crankshaft (Z-axis)—in. (mm)	8.1 (206)
Maximum Allowable Static Bending Moment at Rear Face of Flywhl Hsg w/ 5-G Load—lb-ft (N·m)	600 (814)
Thrust Bearing Load Limit—lb (N) Forward Rearward	
Intermittent	1821 (8100).....899 (4000)
Continuous	1214 (5400).....562 (2500)
Max. Continuous Damper Temp—°F (°C)	180 (82)

Electrical System

12 Volt 24 Volt

Min. Battery Capacity (CCA)—amp	1900	925
Max. Allow. Starting Circuit Resist.—Ohm 0.0012	0.002	
Starter Rolling Current		
At 32 °F (0 °C)—amp	920	600
At -22 °F (-30 °C)—amp	1300	700
Min. Voltage at ECU during Cranking—volts	6	10
Maximum ECU Temperature—°F (°C)	221 (105)	
Max. VTG Actuator Surface Temp.—°F (°C)	356 (180)	
Maximum Harness Temperature—°F (°C)	257 (125)	

Air System

Maximum Allowable Temp Rise—Ambient Air to	
Engine Inlet—°F (°C)	15 (8)
Maximum Air Intake Restriction:	
Dirty Air Cleaner—in. H ₂ O (kPa)	25 (6.25)
Clean Air Cleaner—in. H ₂ O (kPa)	15 (3.75)
Engine Air Flow—ft ³ /min (m ³ /min)	1201 (34)
Air Cleaner Efficiency—%	99.9

Engine Installation Criteria

Charge Air Cooling System

Air/Air Exch'r. Heat Rej.—Btu/min(kW)	6204 (109)
Compressor Discharge Temp.(Rated)	
@ 77 °F (25°C) Ambient Air—°F (°C)	432 (222)
Compressor Discharge Temp.(Max.) @ Peak Torque,	
47°C ambient, 80 kPa barometer—°F (°C)	489 (254)
Max. Pressure Drop, thru CAC—in.H ₂ O (kPa)	64 (16)
Min. Pressure Drop, thru CAC—in.H ₂ O (kPa)	32 (8)
Intake Manifold Pressure—psi (kPa)	34 (235)
Max CAC Out Temp @ 77°F (25°C) Amb.—°F (°C)	127(53)
Min CAC Out Temp @ 77°F (25°C) Amb.—°F (°C)	119(48.5)
Max CAC Out Temp @ any Ambient—°F (°C)	190(88)

Cooling System

Engine Heat Rejection—BTU/min (kW)	13,262 (233)
Coolant Flow—gal/min (L/min)	146 (552)
Thermostat Start to Open—°F (°C)	180 (82)
Thermostat Fully Open—°F (°C)	198 (92)
Engine Coolant Capacity—qt (L)	19 (18)
Minimum Pressure Cap—psi (kPa)	14.5 (100)
Maximum Top Tank Temp—°F (°C)	221 (105)
Minimum Coolant Fill Rate—gal/min (L/min)	3 (12)
Minimum Air-to-Boil Temperature—°F (°C)	117 (47)
Minimum Pump Inlet Pressure—psi (kPa)	4.4 (30)

Exhaust System

Exhaust Flow—ft ³ /min (m ³ /min)	3062 (87)
Exhaust Temperature—°F (°C)	980 (532)
Max. Exhaust Restriction—in. H ₂ O (kPa)	40 (10)
Min. Exhaust Restriction—in. H ₂ O (kPa)	16 (4)
Max. Bend. Moment on Turbo Out.—lb-ft (N·m)	5.2 (7)
Max. Shear on Turbo Outlet—lb (kg)	24 (11)

Fuel System

ECU Description	L15 Controller
Fuel Injection Pump	Unit Injection
Governor Type	Electronic
Total Fuel Flow—lb/hr (kg/hr)	375 (170)
Fuel Consumption—lb/hr (kg/hr)	221 (100)
Max. Fuel Inlet Temperature—°F (°C)	212 (100)
Fuel Temp. Rise, Inlet to Return—°F (°C)	111.8 (62)
Max. Fuel Inlet Restriction—in. H ₂ O (kPa)	40 (10)
Max. Fuel Inlet Pressure—in. H ₂ O (kPa)	96 (24)
Max. Fuel Return Pressure—in. H ₂ O (kPa)	140 (35)

Lubrication System

Oil Pressure at Rated Speed—psi (kPa)	45 (310)
Oil Pressure at Low Idle—psi (kPa)	20 (138)
Max. Oil Carryover in Blow-by—lb/hr (g/hr)	0.007 (3)
Max. Airflow in Blow-by—gal/min (l/min)	79 (300)
Max. Crankcase Pressure—in. H ₂ O (kPa)	2 (0.5)

Performance Data

Rated Power—hp (kW)	600 (448)
Rated Speed—rpm	2100
Breakaway Speed—rpm	2150
Fast Idle Speed—rpm	2300
Peak Torque—lb-ft (N·m)	1881 (2550)
Peak Torque Speed—rpm	1275
Low Idle Speed—rpm	900
BMEP—psi (kPa)	275 (1895)
Friction Power @ Rated Speed—hp (kW)	78 (58)
Altitude Capability—ft (m)	10,000 (3050)
Ratio—Air : Fuel	24 : 1
Smoke @ Rated Speed—Bosch No.	0.28
Noise—dB(A) @ 1 m	101
Power Bulge—%	0
Power Bulge Speed—rpm	NA
Torque Rise—%	25

Intermittent Power

Engine Speed rpm	Power hp (kW)	Torque lb-ft (N·m)	BSFC lb/hp-hr (g/kWh)
2100	600 (448)	1502 (2037)	0.351 (214)
2000	600 (448)	1578 (2139)	0.351 (214)
1800	594 (443)	1734 (2351)	0.346 (211)
1600	573 (427)	1881 (2550)	0.336 (204)
1400	501 (374)	1881 (2550)	0.327 (199)
1200	430 (321)	1881 (2550)	0.327 (199)
1000	317 (237)	1667 (2260)	0.330 (201)
900	250 (187)	1460 (1980)	0.337 (205)

All values at rated speed and power with standard options unless otherwise noted.

* Revised Data

Curve: 6135HF485600_2100_0_25 Sheet 2 of 2
April 2006



America

CERTIFICATE

The Certification Body of
TÜV SÜD AMERICA INC.

hereby certifies that

John Deere Engine Works
3801 West Ridgeway Avenue
Waterloo, IA 50701 USA
(see page 2 for additional locations)

has implemented a Quality Management System
in accordance with:

ISO 9001:2015

The scope of this Quality Management System includes:

**Design and Manufacture of Off-Highway Heavy
Duty Engines and Machined Components**

Certificate Expiry Date: February 3, 2020

Certificate Registration No: 951 05 2997

Effective Date: February 17, 2017




Gary W. Minks
VP, Regulatory Affairs



Page 1 of 2

UCB_F_12.03 2012-02

ZERTIFIKAT • CERTIFICATE • 認證證書 • CERTIFICADO • CERTIFICAT



CERTIFICATE

John Deere Engine Works
3801 West Ridgeway Avenue
Waterloo, IA 50701 USA

**Manufacture of Off-Highway Heavy Duty
Engines and Machined Components**

John Deere Product Engineering Center
Gate 3, Ridgeway Avenue
Waterloo, IA 50701 USA

**Design of Off-Highway Heavy Duty Engines
and Machined Components**

Certificate Expiry Date: February 3, 2020

Certificate Registration No: 951 05 2997

Effective Date: February 17, 2017



Gary W. Minks

Gary W. Minks
VP, Regulatory Affairs



CAN PLUS 750 AUTOMATIC CONTROLLER

CANplus[®] 750 Automatic Start/Stop Series

FOR ELECTRONICALLY GOVERNED AND MECHANICALLY GOVERNED ENGINES

DESCRIPTION

The LOFA CANplus[®] 750 (CP750) Series is a universal platform to monitor, control and automatically start/stop both electronically and mechanically governed diesel engines. On electronically governed engines, the CANplus[®] displays diagnostic messages from the engine ECU as well as two additional fault inputs. On mechanically governed engines, the CANplus[®] also performs the ECU by monitoring low oil pressure, high temperature and two additional engine faults. An analog fuel level input broadcasts the fuel level across the SAE J1939 CANbus to the display and other devices. The microprocessor-based solid-state design uses high power semiconductors instead of outdated electromechanical relays to ensure reliable high current switching.

A single momentary rocker switch adjusts the throttle using the CANbus for electronically governed engines. An optional panel mounted rotary digital throttle with push-to-set speed selector or a remote mounted vernier potentiometer are also available for throttle control. The integrated automatic start/stop functionality combined with the configurable throttle ramp time and engine speed limits makes the CANplus[®] an ideal autostart control system. For automated pump applications, the panel can easily be configured in the field for wide variety of pumping applications utilizing float switches or transducers for level, pressure or flow.

The large LCD display (4.25" diagonal) shows virtually any SAE J1939 parameter reported by the ECU, including RPM, engine temperature, oil pressure and diagnostic codes. The display can be easily configured to customer preference concerning gauge type (analog or digital), gauge arrangements, gauge size, and language (8 languages supported). For automated pump applications, the display shows float states as well as transducer level. The LCD is clearly readable in both bright sunlight as well as total darkness and is housed in a rugged IP67 rated housing. The five integral push buttons allow configuration and operation of the display modes. Four bright LEDs below the display indicate Preheat, Autostart, Warning and Stop status.

The CP750 allows each system to be field configured to suit the customer's unique requirements. Most common operational parameters can be configured from the display. Less frequently used parameters are configured from virtually any computer using the easy to operate configuration program. Optional analog gauges can be installed for analog sensors or to display many ECU parameters with a simple add-on module.

Automatic Start/Stop Operation

The CP750 features advanced Automatic Start/Stop control to meet almost any requirement. A 4-20mA transducer and two switch inputs support a number of control scenarios.

Single switch mode allows reliable operation with a single switch. Dual switch operation allows reliable operation with greater hysteresis.

The transducer input supports simple start/stop operation with configurable high and low set points. Throttle maintain modes use the transducer reading to adjust the engine speed to match a configurable set point (level or pressure). Configurable gain settings tunes the throttle aggressiveness to suit virtually any application.

For additional safety, the CP750 supports transducer combined with realtime redundant switches to protect against transducer malfunctions. Sleep well at night knowing a simple transducer failure won't cause a catastrophe!



Pictured Above: CP750G2RD



Above: Rotary digital throttle with push-to-set speed selector allows for changes to Auto-start/Stop RPM within pre-defined operational limits



Above Left: Deutsch 21 pin engine harness connector
Above Right: CPC sealed dual float switch connector with cap
Middle: J12 sealed transducer connector (cup not shown)
Bottom: J12 sealed RS485 serial connector (cap not shown)



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PHONE 770 569 9828

FAX 770 569 9829

www.LOFA.net

250 Hembree Park Drive

Suite 122

Roswell GA 30076

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FEATURES AND BENEFITS

- Universal engine support for both electronically and mechanically governed engines
- Engine monitoring and diagnostics via First-Fault Diagnostics (FFD)
- Large backlit IP67 LCD color displays parameters and diagnostics clearly readable in both bright sunlight as well as total darkness
- Super-bright status LEDs for Auto Standby, Preheat, Warning and Stop
- Integral throttle control via simple momentary rocker switch or optional rotary digital throttle with push-to-set speed selector for CANbus throttle
- Heavy-duty IP64 water-resistant key switch with booted key capable of up to 75A @ 12V (removable in autostart position)
- Heavy-duty polycarbonate NEMA 4X enclosure with lockable door and isolation mounting designed to withstand the most extreme industrial applications
- Alarm output to signal start warning or shutdown conditions
- Output for engine running, autostart armed or load switch
- Simple plug-and-play installation customized to the specific application allows rapid equipment completion
- Versatile design enables customization for customer's specific applications

Configurable Features

- J1939 Parameters
 - Operating Mode
 - Switch Polarity (NO/NC)
 - Transducer Parameters
 - Throttle Settings
- Analog Fuel Sender
- Mechanically Governed Engine

Other Parameters

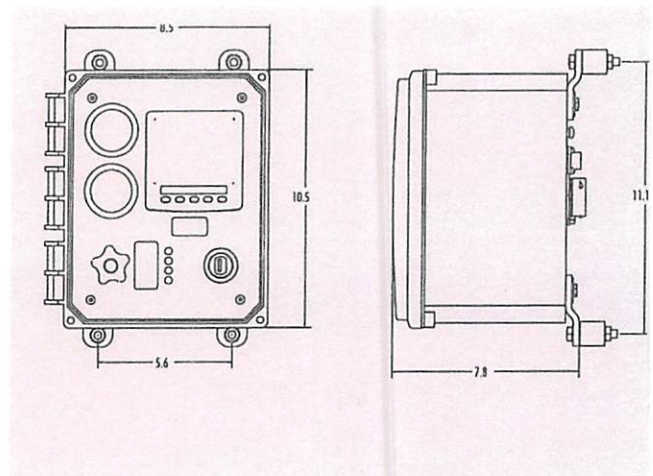
- Over Speed RPM
- Preheat Control
- Shutdowns

The standard panel terminates to a sealed Deutsch weatherproof plug. This connector offers a robust connection that performs well in harsh environments and allows for simplified installation. The design allows installing custom plug-and-play engine wiring harnesses as well as standard harness extensions.



The information contained in this literature is to be used only as a guide to assist with product selection. LOFA Industries, Inc. makes no representation or warranty as to the completeness or accuracy of the information contained herein. The products and specifications set forth in this literature are subject to change without notice and LOFA Industries, Inc. disclaims any and all liability for such changes. The information contained herein is provided without warranties of any kind and LOFA Industries, Inc. disclaims any and all liability for typographical, printing, or production errors or changes affecting the products and/or the specifications contained herein.

DIMENSIONS



SPECIFICATIONS

- Standby current: 20 mA @ 12 VDC, 40 mA @ 24 VDC
- Operating Temperature: -4° to 158° F (-20° to 70° C)
- Key Switch: 75 A for 1 second (5% duty cycle)/18 A continuous @ 12V; 25,000 mechanical cycles
- Reverse polarity protection
- 2-year limited warranty

Solid State Inputs/Outputs

- SAE J1939 Bus (CANbus 2.0B)
- ECU/Solenoid Control Output (10 A continuous)
- Starter Solenoid Output (70A 1 second, 10 A continuous)
- Auxiliary Multipurpose Output (1 A continuous)
- Alarm Output (1 A continuous)
- 2 Autostart Switch Inputs
- Transducer Autostart Input (4-20 mA or optional 0-5 VDC)
- 2 Auxiliary Shutdown Switch Inputs
- Fuel Sender Analog Input
- RS485 Serial Interface for Auxiliary Equipment

Mechanical Engines Only

- Preheat Indication Input (ground or battery active)/Preheat Control Output (ground active)
- Tachometer Input
- Temperature Switch Input
- Oil PSI Switch Input
- Oil PSI Sender Analog Input
- Temperature Sender Analog Input

medium	P	0	I	II	III	12V	24V
300	100					0A	4A
150A						25A	12A
19						70A	20A
17						70A	40A
50A						10A	5A



Row	Author	Description	Date
1	A	Added 22, 23, 24, corrected 215	1-Oct-1997
2	B	Added type 4 wiring	16-Mar-1999
3	C	Added additional apparatus harness	12-Oct-2000
4	D	Added 1/2 Sintering process, Aural and Alumin note	17-Jun-010
5	E	Corrected Aural and Sinter current limit	20-Jun-010
6	F	Added Aural and Sinter wiring	14-Dec-2012
7	G	Added 1/2 Sintering and Sinter wiring	1-Jun-2013
8	H	Added 1/2 Sintering and Alumin current limit	26-Feb-2014
9	I	Removed wires 24, 25, 26, added 26, removed 24, 25, 26	17-Feb-2014

AUX I/O WARNING!
Aux I/O function is dependent on OnChip I/O firmware and configuration.
Improper external connections may interfere with normal board operation.

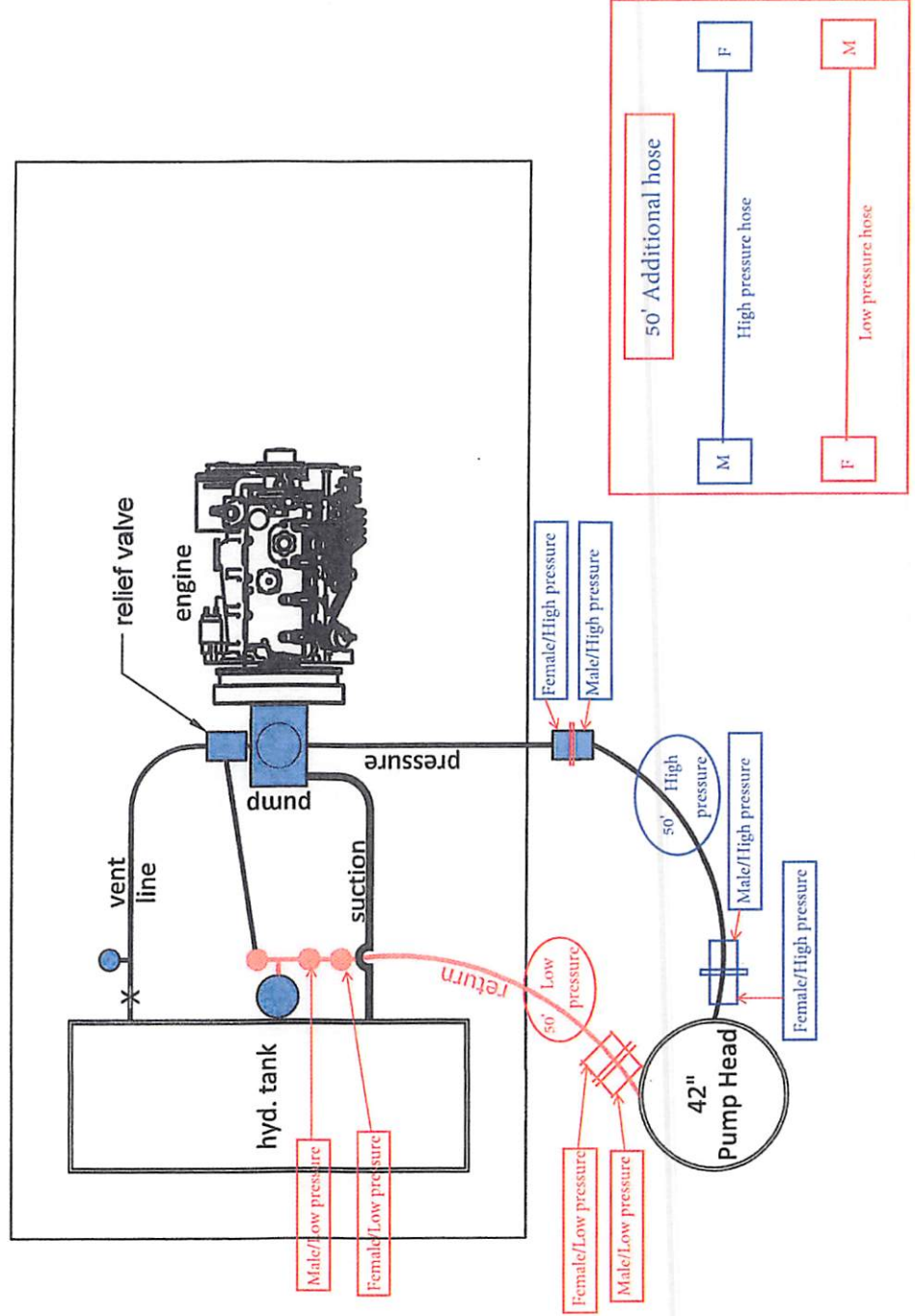


Transfer outputs, ground active, 503 mA maximum?
 *Use battery+ to power attached devices (2A maximum).

1 of 1

HYDRAULIC SCHEMATIC

HYDRAULIC SCHEMATIC

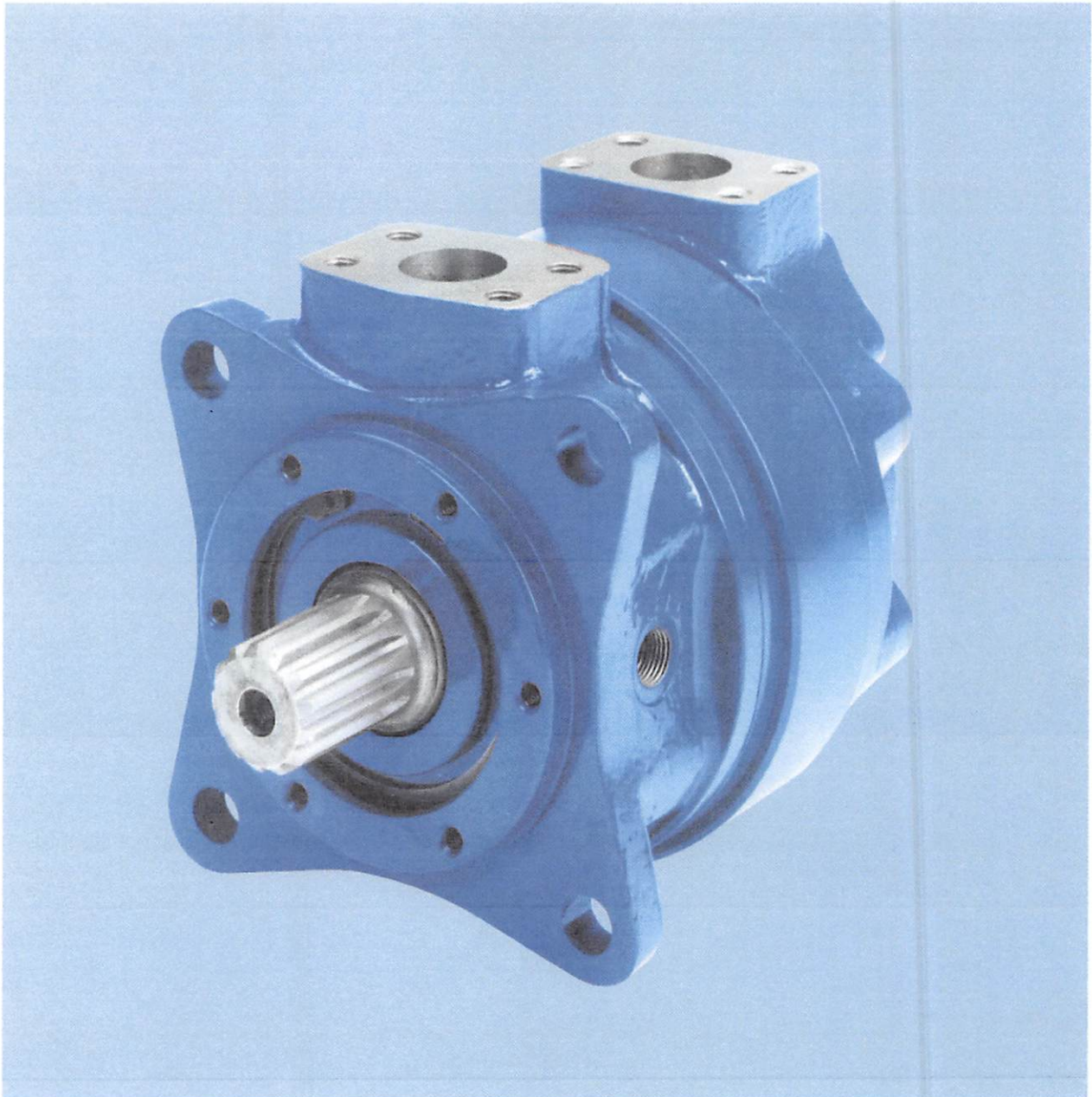


HYDRAULIC PUMP / HYDRAULIC MOTOR

The Drive & Control Company

Rexroth
Bosch Group

High Torque Vane Motors MV015, MV037, MV057, MV125



Unique vane crossing vane design provides maximum versatility

This motor is created around the patented “vane crossing vane” design, a leading-edge concept in fluid power transmission, which allows for low speed/high torque and high speed/high torque. With over 50 displacements combined with a variety of optional features, this is one of the most versatile hydraulic motors in the world.

Optimum power-to-weight ratio

Four frame sizes with displacements ranging from 6 to 250+ cubic inch (98 to 4096+ cc) displacements (CID).

Starting & stall torque

Applications requiring maximum torque at zero rpm benefit from the vane crossing vane design. Torque curves are virtually flat, with maximum torque at start and stall conditions.

Smooth output over a wide speed range

From less than 10 rpm to 2000 rpm and beyond, this motor generates low torque ripple and steady acceleration for smooth operation.

Dynamic braking

The motor is constructed of hardened materials and does not include any non-ferrous metals. This is a plus when designing for dynamic braking and overrunning loads. The cavitation that typically occurs in these circuits does not affect motor integrity.

4-ported series

4-port motors are available in the 37, 57, and 125 Series. These motors are made up of two cartridges separated by a center ported housing. Equal or dissimilar displacements may be combined to attain desired total cc/rev (CID). When supplied with external valving, they can be used as either 2- or 3-speed motors.

High performance series

The 37D, 57D, and 125H are now part of the family of motors. This high performance design is for 4500 psi (310 bar) “continuous” service, and boosts torque and horsepower by 50% providing the same wide speed range of standard motors.

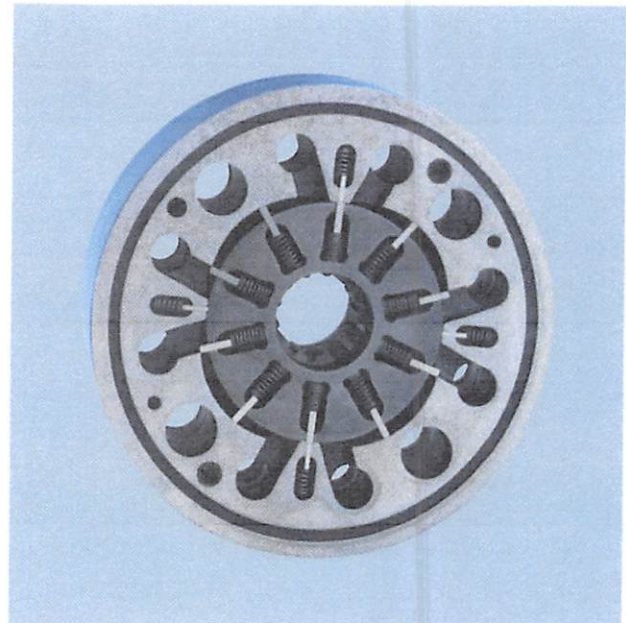
The power difference – Vane crossing vane patented technology

The vane crossing vane motor is a bi-rotational power converter utilizing working vanes in the rotating member (rotor) and sealing vanes in the stationary member (stator).

With 10 rotor vanes working in four cavities, the motor provides an uninterrupted output torque regardless of angular position. This equates to 40 power strokes per revolution, delivering higher average torque with low torque ripple.

The stator vanes function as seals between high- and low-pressure ports within the stator. This allows for more displacement in the stator, giving the motor an optimum power-to-weight ratio.

With this patented technology (vane crossing vane design), the motor produces improved mechanical and volumetric efficiencies—the **Power Difference**.



The broadest vane motor product line for a variety of fluid power demands



◀ **MV015 – 2000 rpm
509 lb-ft (690 Nm)**
Offered in single, two-speed, double output shafts, wheel-bearing style, and retractable shafts along with splined, tapered, or straight keyed shafts. Through-hole and thrust bearing options also available. SAE C mount.



◀ **MV057 – 500 rpm
3016 lb-ft (4089 Nm)**
Offered in A [3000 psi (207 bar)] or D version [4500 psi (310 bar)]. The same features offered in the 37 Series are available in a motor that's one inch longer. Modified SAE D mount.



◀ **MV037 – 1000 rpm
2007 lb-ft (2721 Nm)**
Offered in A [3000 psi (207 bar)] or D version [4500 psi (310 bar)]. Splined, tapered, straight keyed, and double output shafts are standard, along with through holes to 1 1/2". Optional thrust and radial load bearings with substantial capacity, tach pickups, double stacks (up to twice the torque), and brake mounts available. SAE D mount.



◀ **MV037/057 4-Port –
500 rpm 6032 lb-ft
(8178 Nm)**
Combines any two displacements from the 37 and/or 57 series displacement choices in a 4-port configuration. Allows for 2- or 3-speed operation using external valving. Available in both A and D designs. Many of the same optional choices listed above are available.

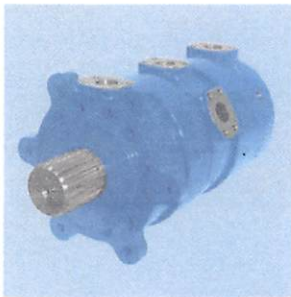
High-torque motors manufactured to the tightest tolerances for maximum volumetric efficiencies



◀ **MV125 – 300 rpm
6903 lb-ft (9359 Nm)**
Offered in A [3000 psi (207 bar)] or H version [4500 psi (310 bar)]. Splined, tapered, straight keyed, female, and double output shafts are standard, along with through holes to 3". Optional thrust and radial load bearings with substantial capacity, tach pickups, double stacks, and brake mounts available.



◀ **Drill Motors**
Available in 37, 57 and 125 series as 2 or 4 port models. Numerous bearing/shaft configurations and through-hole options are available, including API box threads. Sublock system is standard.



◀ **MV125 4-Port –
300 rpm 13,806 lb-ft
(18,718 Nm)**
Combines any two displacements for the 125 A or H series in a 4-port configuration. Allows for 2- or 3-speed operation using external valving.



◀ **Cross Series 4-Ports**
37, 57 and 125 Series can have a rear motor from a smaller series, including the 15 Series. This allows for many displacement combinations or speed ratios when used in 2- or 3-speed circuits. Available in both pressure designs.

Motor specifications

Standard Series Code 61	Displacement		Pressure				Speed		*Torque @ 3,000 psi (207 bar)	
	(in ³ /rev)	(cm ³ /rev)	Continuous		Intermittent		Continuous (rpm)	Intermittent (rpm)	Continuous	
			(psi)	(bar)	(psi)	(bar)			(lb-ft)	(Nm)
MV015	6	98	3000	207	3500	241	2000	2600	183	248
	7	115					1900	2600	230	312
	8	131					1800	2600	274	372
	9.5	156					1700	2300	308	418
	10.5	172					1600	2300	352	477
	11.5	188					1600	2300	395	536
	13	213					1500	2000	428	580
	15	246					1500	2000	509	690
MV037 A, C	12	197	3000	207	3500	241	1000	1200	410	556
	16	262					1000	1200	553	750
	20	328					1000	1200	722	979
	26	426					800	1000	920	1247
	32	524					700	950	1143	1550
	37	606					600	800	1315	1783
MV057 A, C	48	787	3000	207	3500	241	500	600	1702	2308
	55.5	909					500	600	1976	2679
MV125 A, C	60	983	3000	207	3500	241	350	400	2188	2967
	68	1114					350	400	2507	3399
	82	1344					300	350	3024	4100
	98	1606					300	350	3589	4866
	113	1852					300	350	4130	5600
	125	2048					300	350	4602	6239

* – Torque values are average performance data measured at maximum speeds with 102 SUS (21cSt) and standard rotating group.

Note:

- When considering double stack or 4-port motors, any 2 displacements in a given series can be combined. The resultant torque is the sum of the 2 displacements. This does not apply to the 15 series.
- Higher speeds may be permissible under certain conditions. Consult factory.

High Performance Series Code 62	Displacement		Pressure				Speed		*Torque @ 4,500 psi (310 bar)	
	(in ³ /rev)	(cm ³ /rev)	Continuous		Intermittent		Continuous	Intermittent	Continuous	
			(psi)	(bar)	(psi)	(bar)	(rpm)	(rpm)	(lb-ft)	(Nm)
MV037 D	12	197	4500	310	5000	345	1000	1200	637	864
	16	262					1000	1200	851	1154
	20	328					1000	1200	1104	1497
	26	426					800	1000	1399	1897
	32	524					700	950	1735	2352
	37	606					600	800	2007	2721
MV057 D	48	787	4500	310	5000	345	500	600	2553	3461
	55.5	909					500	600	3016	4089
MV125 H	60	983	4500	310	5000	345	300	350	3282	4450
	68	1114							3761	5099
	82	1344							4536	6150
	98	1606							5383	7298
	113	1852							6194	8398
	125	2048							6903	9359

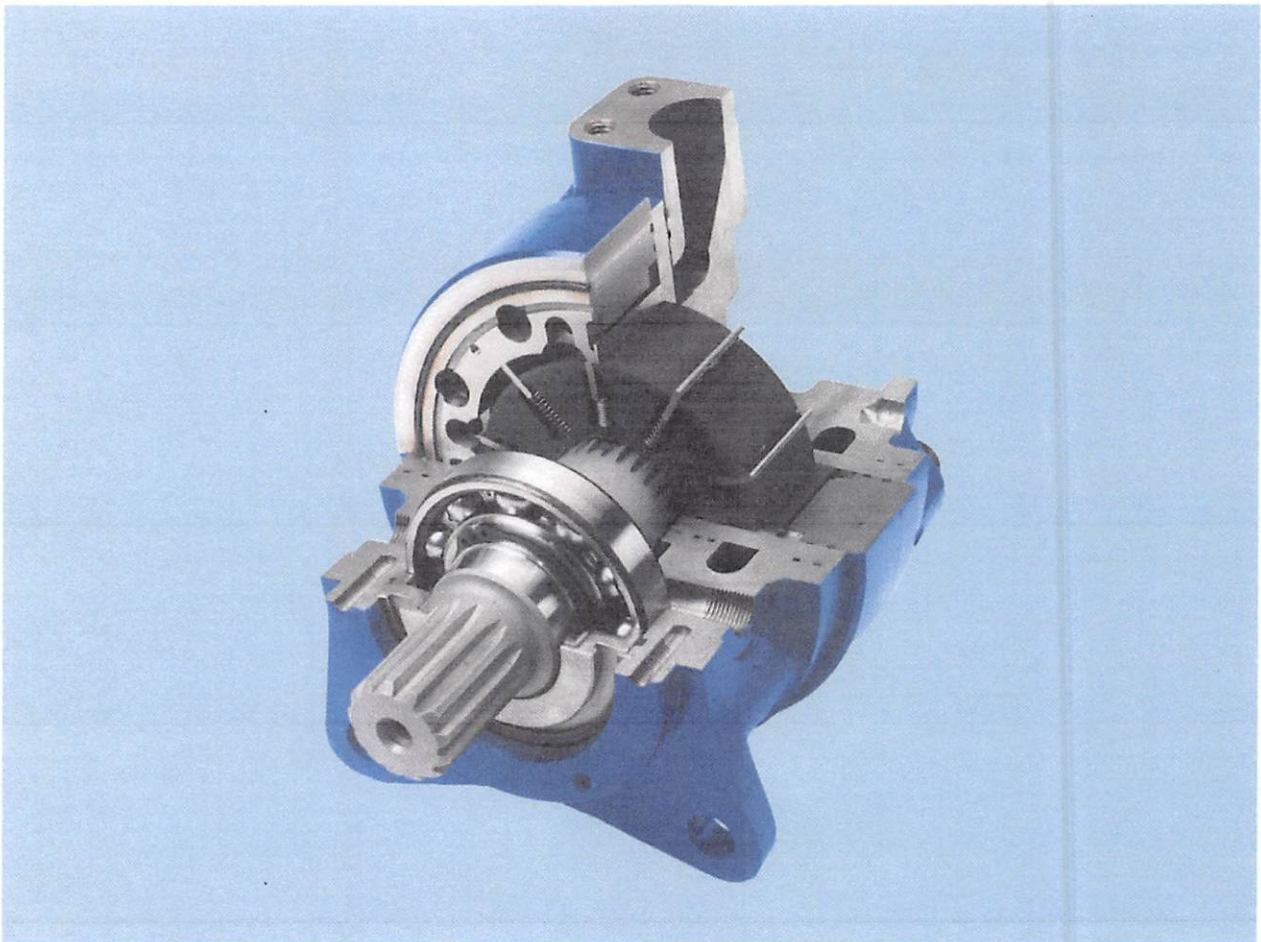
* – Torque values are average performance data measured at maximum speeds with 102 SUS (21cSt) and standard rotating group.

Note:

1. When considering double stack or 4-port motors, any 2 displacements in a given series can be combined. The resultant torque is the sum of the 2 displacements. This does not apply to the 15 series.
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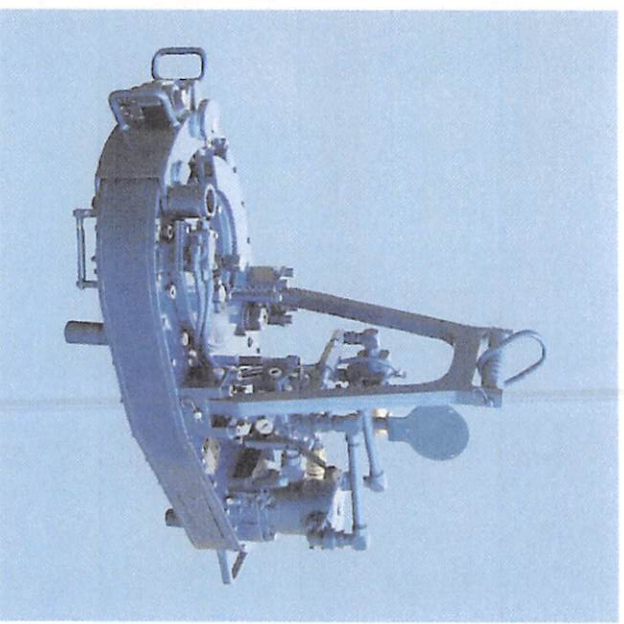
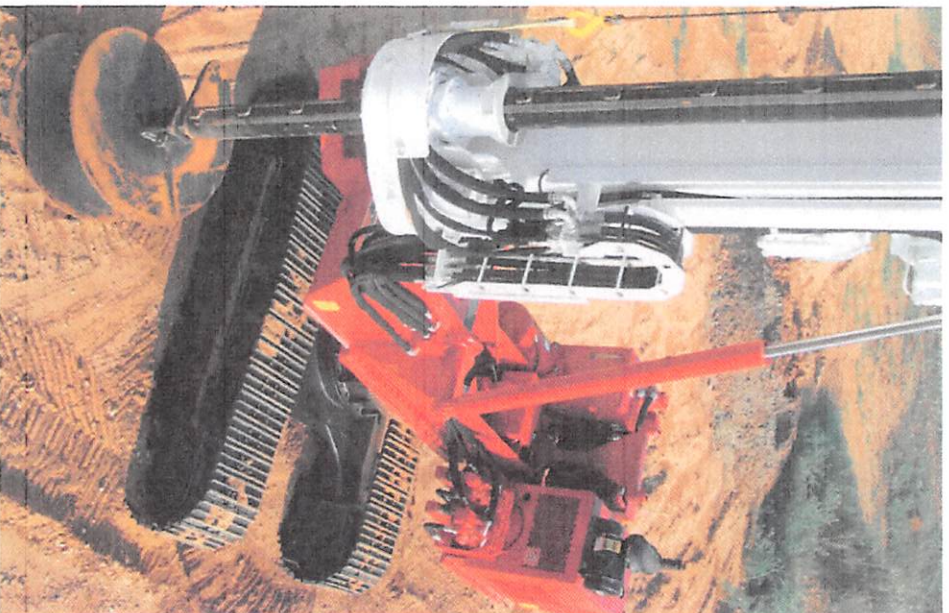
The first choice for the toughest jobs

- ▶ Augers
- ▶ Blast Hole Rigs
- ▶ Bow Thrusters
- ▶ Conveyors
- ▶ Coring/Drilling
- ▶ Directional Drills
- ▶ Fan Drives
- ▶ Feeder Mixers
- ▶ Injection Molding
- ▶ Planer Tables
- ▶ Power Tongs
- ▶ Pump Drives
- ▶ Roof Bolters
- ▶ Rotary Table Drives
- ▶ Shredders
- ▶ Timber Harvesting
- ▶ Top Head Drives
- ▶ Wheel & Tracks
- ▶ Winches



Driven to design better solutions to meet your unique needs

Working together, we constantly strive to deliver more power where you need it, when you need it, to get the job done!



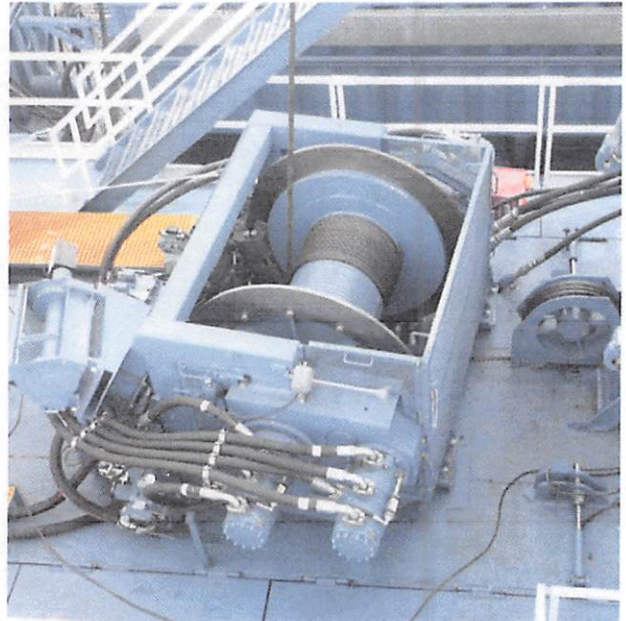
▲ Caisson drill rigs use 4-ported motors along with a multi-speed circuit to vary bit rpm and torque.

▲ Power tongs are a staple of the oil field. Our vane crossing vane motors have been providing the torque to make and break pipe joints for over 40 years.

Designed & manufactured to withstand the most demanding applications



◀ Vane crossing vane motors power top drives for oil and gas exploration.



▲ A large capacity winch is driven by two 4096 cc (250 cubic inch) motors plugged into the drum via a gearbox.

Engineering the right motors for over 40 years

Rineer Hydraulics, Inc. was formed in 1967, and is recognized worldwide as a leading manufacturer of quality hydraulic motors. Rineer has been integrated with Bosch Rexroth since 2008 and is a strong complement to our hydraulic portfolio.

Highly skilled engineers

Our team of dedicated engineers, working with a state-of-the-art CAD system, responds quickly to customer requests.

Extensive R&D testing

Once a design modification is completed, drawings are forwarded to manufacturing for machining. Upon completion, units are sent to the R&D Lab for extensive mechanical and hydraulic testing.

State-of-the-art equipment

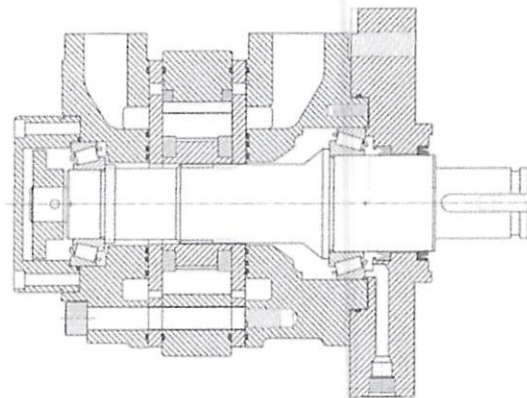
The lab is equipped with computer monitored dynamometers with capabilities exceeding 1,000 horsepower. Coupled with numerous special devices, we can perform a wide array of testing.

Quality assurance

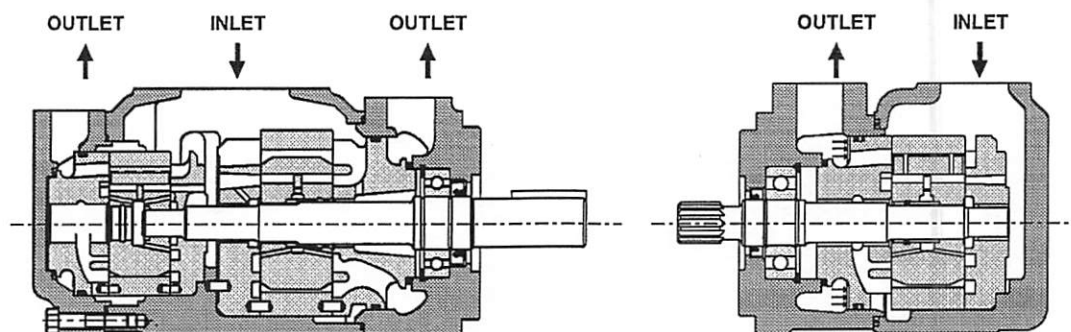
To ensure maximum control over tolerances and quality, all major components of the vane crossing vane motor are manufactured in-house using the latest technology.

Customer satisfaction is our priority

Our company mission is to provide our customers with a reliable, performance-proven product. Customers are welcome to share ideas with our staff in order to assure complete satisfaction.



- ▲ Customized motor with customer specified shaft and mount
- ▲ Load specific bearing selection
- ▲ Speed sense capability



PUMP DESCRIPTION

Veljan Vane Pumps have a hydrostatically balanced cartridge which offers flexibility in pump sizes within a single series. A firm but light force against the vane is provided by the pin in order to follow the contour of the cam ring. All pumps can be supplied with flange or foot bracket mounting.

CHARACTERISTICS

Due to hydrostatic balance, the rotor carries no radial forces and, therefore, only transmits the torque generated by the operating pressure. Leakage is reduced to a minimum since the floating port plate is loaded by system pressure.

A wide viscosity range allows for operation under extreme temperature conditions. Longer service life, however, can be achieved by observing the recommended operating viscosity. The ambient temperature normally has no influence on the functional safety of the vane pumps.

PRINCIPLE OF OPERATION

The operating principle of a vane pump is illustrated in the figure above. A slotted rotor is driven within the cam ring by the shaft, coupled to a power source. As the rotor turns, vanes fitted in the radial slots of rotor follow the inner contour of the cam ring and provide two complete suction and pressure cycles during one revolution. Because of the eccentric design of the cam ring from the center line of the rotor, the rotor is loaded by the vanes only when they are on the major and minor arcs of the cam contour.

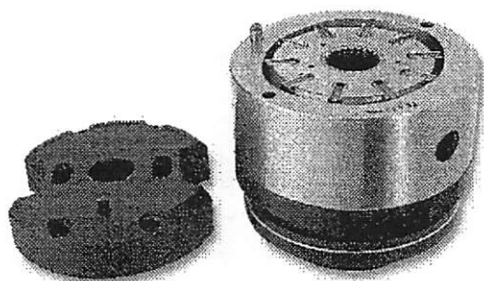
The displacement of the pump depends on the size of the cam ring and rotor and on the maximum distance the vane allowed to extend from the rotor surface to the cam ring surface.

The components of the cartridge are an elliptical cam ring, a slotted rotor, two port plates, vanes and vane pins fitted into the rotor slots. The inlet flow feeds through ports on both sides of the cartridge as well as through a large port through the cam ring at each suction ramp. This further permits greater displacement within the series, reduces wear and allows higher speed operation. As the outlet section is approached, the chamber volume decreases and the fluid is forced out into the system. System pressure is fed under the vanes, assuring their sealing contact against the camring during normal operation.

The pressure in the over-vane areas is equalized by the radial holes through the vanes. A firm but light force against the vane is provided by the pin subjected to the steady pin cavity pressure. This force assures smooth cam tracking by the vane. Thus in a light but steady contact, the vanes are held outward against the fluid film which separates them from the cam ring. Their radial position changes to follow the cam to adjust for fluid viscosity, contaminants and component wear.

The fluid film separates the rotor from the side port plates. The side port plates are clamped axially by an over balance of the internal pressure forces in the pumping cartridge. They accommodate dimensional changes due to temperature and pressure. Axial and radial running clearances, along with the lubricating oil film on the rotor and vanes, are optimized over the entire operating pressure range.

Rugged design and premium material selection, as well as the minimum number of rotating parts, contribute to the low noise levels and long efficient service life of Veljan Vane Pumps.



Pump cartridge

DOUBLE AND TRIPLE PUMPS

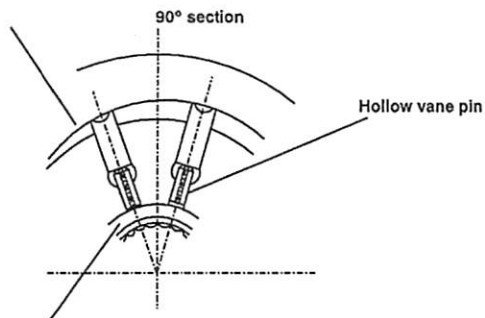
The VT* series Double Vane Pump is two hydraulic pumps and VT* series Triple Vane Pump is three hydraulic pumps in a single pump housing. Each is driven by the common shaft and is fed from the common inlet port. Each discharges from its separate outlet port and operates only at the pressure imposed on it. All pumps drain internally to the inlet port and hence no external drain is required.

MOBILE VERSION VANE PUMPS

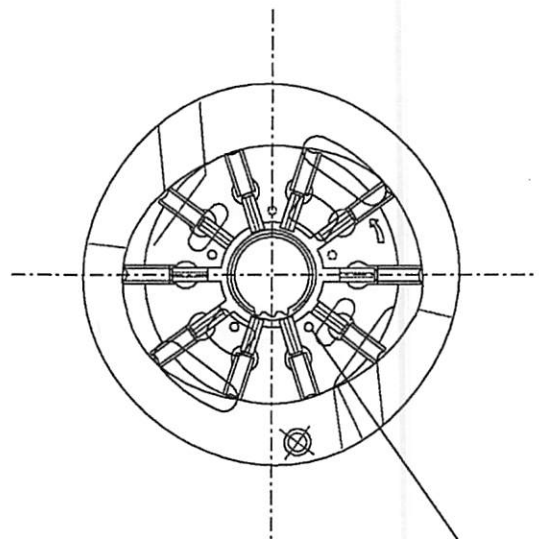
The working principle of operation of these pumps is same as industrial version except for a few modifications in the internal design of components. The cartridges offered in this version are bi-directional and indicated by "B" description in cartridge model number. Pump rotation is easy to change by changing position of cam ring on port plate dowel pin hole in the bi-directional design pumps.

The design features that differ from the normal industrial version Vane Pump are illustrated in the figures below:

Vane is urged outward at suction ramp by pin force and centrifugal force.



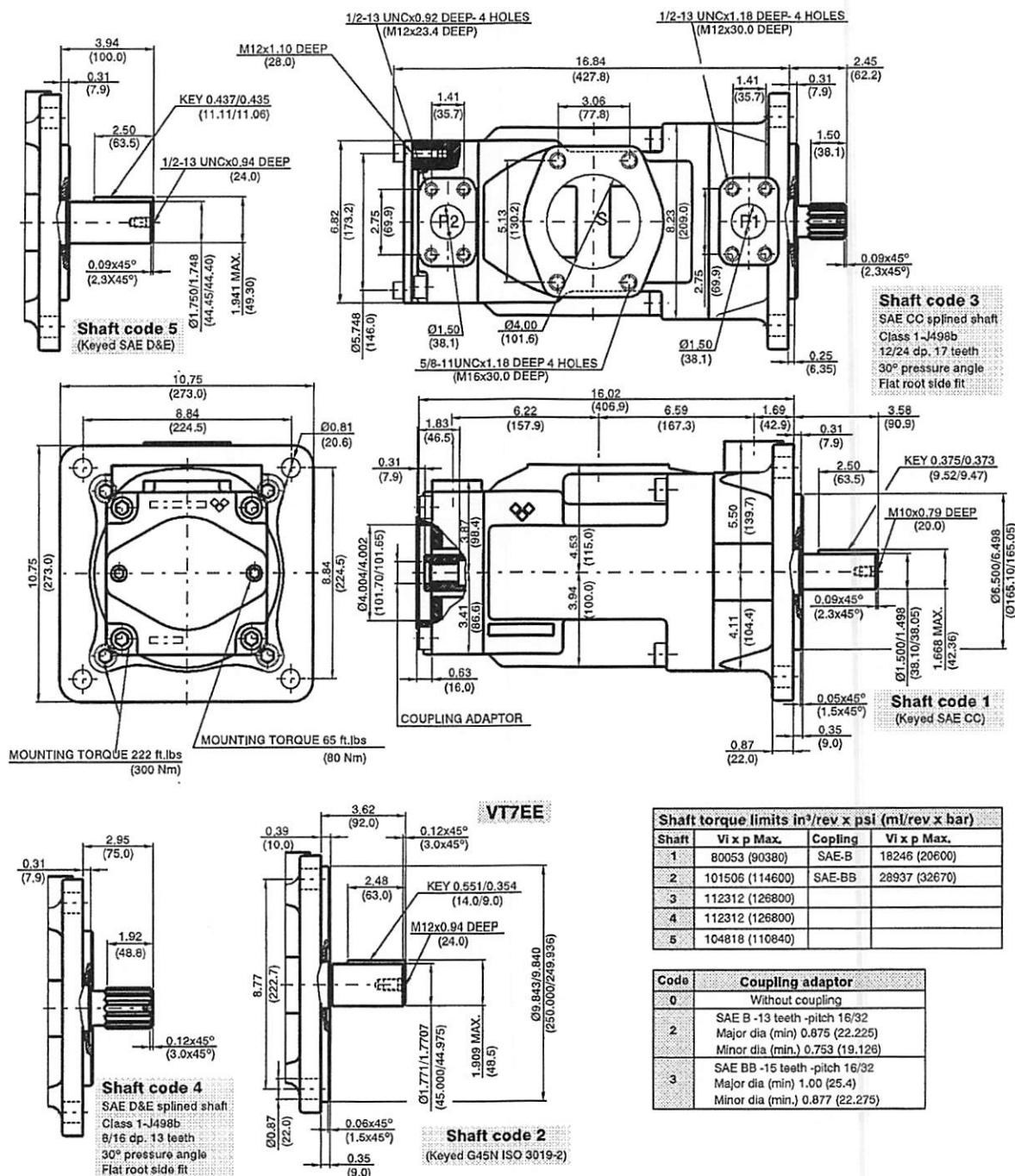
Pin cavity is at a steady pressure slightly higher than at discharge port.



Lubrication holes for lubricating the port plates surfaces

HIGH PERFORMANCE VANE PUMP VT7EE / VT7EES

VELJAN



HIGH PERFORMANCE VANE PUMP VT7EE / VT7EES



VT7EE or VT7EES - 066 - 045 - 1 R 00 - A 1 0 - 00 *

Series

VT7EE series- 250 B4HW
ISO 3019-2 mounting flange
VT7EES series- SAE E 4 bolts
Mounting flange J744c

Cam ring for "P1" & "P2"

Volumetric displacement cm³/rev (in³/rev)

042 = 132.2 (8.07)	057 = 183.2 (11.18)
045 = 142.5 (8.70)	062 = 196.6 (12.0)
050 = 158.5 (9.67)	066 = 213.0 (13.0)
052 = 163.8 (10.0)	072 = 227.1 (13.86)
054 = 170.9 (10.43)	085 = 268.7 (16.40)

Type of shaft VT7EE

2 - keyed G45N(ISO/R775 -G38M)

Type of shaft VT7EES

- 1 - keyed (SAE CC)
- 3 - splined (SAE CC)
- 4 - splined (SAE D & E)
- 5 - splined (SAE D & E)

Modifications

Mounting W/connection variables

P1 & P2= 11"		S=4"
Type	VT7EES	VT7EE-VT7EES
code	00	M0

Coupling adaptor

- 0 - none
- 2 - SAE B
- 3 - SAE BB

Seal class

- 1 - S1 (for mineral oil)
- 4 - S4 (for fire resistant fluids)
- 5 - S5 (for mineral oil and fire resistant fluids)

Design letter

Porting combination (see page BM-1-5)

00 - standard

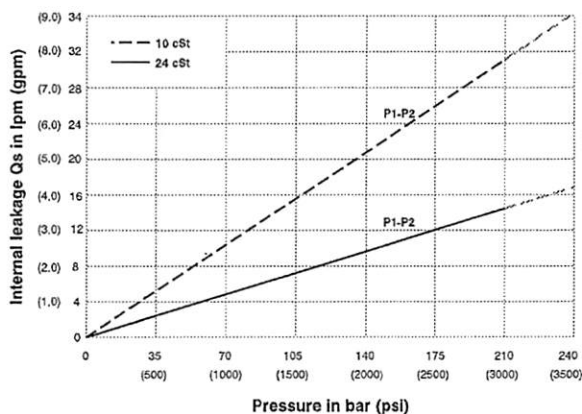
Direction of rotation

(view on shaft end)

R - clockwise

L - counter-clockwise

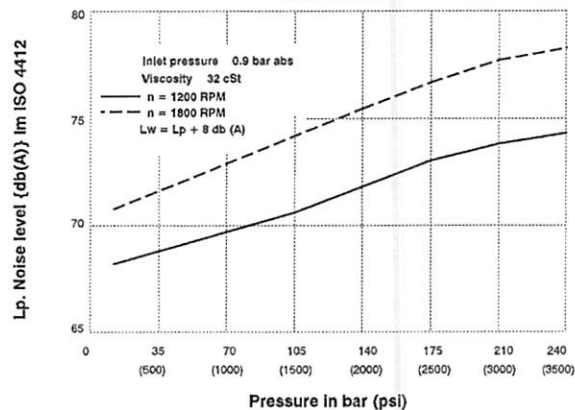
INTERNAL LEAKAGE (TYPICAL)



Do not operate pump more than 5 seconds at any speed or viscosity if internal leakage is more than 50% of theoretical flow.
Total leakage is the sum of each section loss at its operating conditions.

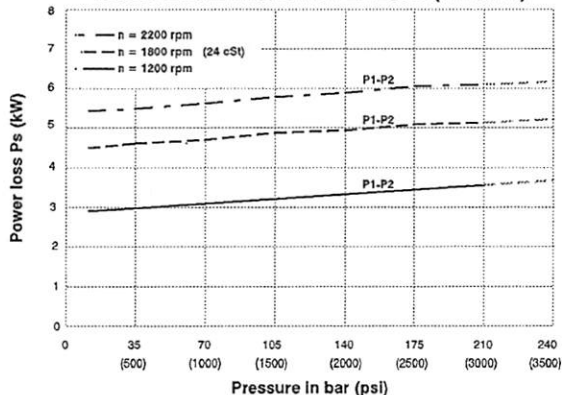
NOISE LEVEL (TYPICAL)

VT7EE- 050-050



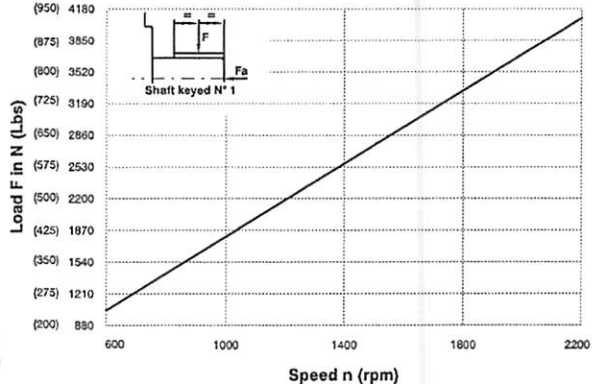
Double pump noise level is given with each section discharging at the pressure noted on the curve.

HYDROMECHANICAL POWER LOSS (TYPICAL)



Total hydromechanical power loss is the sum of each section at its operating conditions.

PERMISSIBLE RADIAL LOAD



Maximum axial load permissible Fa = 2000 N (449 Lbs)

HYDRAULIC HOSES

2-Wire Braided

Premium

GH781 MatchMate Global™ Hydraulic Hose



Exceeds SAE 100R16 Type S, EN 857 Type 2SC, ISO 11237-1 Type 2SC Performance



Triple Crown

- Pressure
- Temperature
- Abrasion Resistance

Inner Tube:

Synthetic rubber tube

Reinforcement:

2 steel braids

Cover:

DURA-TUFF™ synthetic rubber

Typical Application:

Low & medium pressure hydraulic systems, petroleum & water-based fluids, Construction equipment, Agriculture equipment.

MSHA Approved

Part #	Hose I.D.		Hose O.D. (nominal)		Working Pressure		Min. Burst Pressure		Min. Bend Radius		Weight	
	mm	in	mm	in	bar	psi	bar	psi	mm	in	Kg/m	lbs/ft
GH781-4	6.4	0.25	14.1	0.56	448	6,500	1,792	26,000	50	1.97	0.33	0.22
GH781-6	9.5	0.38	17.4	0.69	400	5,800	1,600	23,200	65	2.56	0.43	0.29
GH781-8	12.7	0.50	20.8	0.82	345	5,000	1,380	20,000	90	3.54	0.58	0.39
GH781-10	15.9	0.62	24.9	0.98	276	4,000	1,104	16,000	100	3.94	0.65	0.44
GH781-12	19.0	0.75	28.4	1.12	241	3,500	964	14,000	120	4.72	0.79	0.53
GH781-16	25.4	1.00	35.7	1.41	207	3,000	828	12,000	150	5.91	1.07	0.72
GH781-20	31.8	1.25	43.3	1.71	172	2,500	688	10,000	210	8.27	1.62	1.09
GH781-24	38.1	1.50	51.5	2.03	138	2,000	552	8,000	250	9.84	2.08	1.40
GH781-32	50.8	2.00	63.9	2.52	110	1,600	440	6,400	315	12.40	2.82	1.90

Operating Temperature:

-46°C to +127°C (-50°F to +260°F)

Fittings:



TTC Series

Standard

EC215 Hydraulic Hose



Meets EN 857 Type 2SC

Part #	Hose I.D.		Hose O.D. (nominal)		Working Pressure		Min. Burst Pressure		Min. Bend Radius		Weight	
	mm	in	mm	in	bar	psi	bar	psi	mm	in	Kg/m	lbs/ft
EC215-04	6.4	0.25	13.5	0.53	400	5,800	1,600	23,200	45	1.77	0.28	0.19
EC215-06	9.5	0.38	17.5	0.69	330	4,800	1,320	19,200	65	2.56	0.41	0.28
EC215-08	12.7	0.50	20.8	0.82	275	4,000	1,100	16,000	80	3.15	0.57	0.38
EC215-10	15.9	0.62	24.0	0.94	250	3,650	1,000	14,600	90	3.54	0.68	0.46
EC215-12	19.0	0.75	27.9	1.10	215	3,125	860	12,500	120	4.72	0.81	0.54
EC215-16	25.4	1.00	35.7	1.40	165	2,400	660	9,600	160	6.30	1.17	0.79
EC215-20	31.8	1.25	43.9	1.73	125	1,800	500	7,200	250	9.84	1.56	1.05
EC215-24	38.1	1.50	51.0	2.01	100	1,450	400	5,800	300	11.81	1.81	1.22
EC215-32	50.8	2.00	63.4	2.50	90	1,300	360	5,200	400	15.75	2.36	1.59

Operating Temperature :

-40°C to +100°C (-40°F to +212°F)

Fittings:



TTC Series



Two-piece Winner

Inner Tube:

Synthetic rubber tube

Reinforcement:

Couple wire braid reinforcement

Cover:

Synthetic rubber cover

Typical Application:

Hydraulic system service with petroleum and waterbased fluids, for general industrial service.

MSHA Approved

Spiral R12

Premium

GH493 MatchMate Global™ Hydraulic Hose



Exceeds SAE 100R12, EN 856 Type R12, EN 856 Type 4SP Performance



Triple Crown

- Pressure
- Temperature
- Abrasion Resistance

Inner Tube:

Synthetic rubber tube

Reinforcement:

4 wire spiral

Cover:

DURA-TUFF™ synthetic rubber cover

Typical Application:

For very high pressure hydraulic lines subjected to pressure surges and flexing. Typical applications include construction, mining, farming, and high performance industrial equipment.

MSHA Approved Marine Application J1942/1 - Hydraulic only, ABS

Part #	Hose I.D.		Hose O.D. (nominal)		Working Pressure		Min. Burst Pressure		Min. Bend Radius		Weight	
	mm	in	mm	in	bar	psi	bar	psi	mm	in	Kg/m	lbs/ft
GH493-6	9.5	0.38	20.1	0.79	448	6,500	1792	26,000	62.5	2.50	0.70	0.47
GH493-8	12.7	0.50	23.4	0.92	415	6,000	1660	24,000	90.0	3.50	0.88	0.59
GH493-10	15.9	0.63	28.2	1.11	415	6,000	1660	24,000	100.0	4.00	1.03	0.69
GH493-12	19.1	0.75	30.5	1.20	380	5,500	1520	22,000	120.0	4.75	1.37	0.92
GH493-16	25.4	1.00	37.6	1.48	350	5,100	1400	20,400	150.0	6.00	1.82	1.22
GH493-20	31.8	1.25	46.5	1.83	310	4,500	1240	18,000	210.0	8.25	2.44	1.64
GH493-24	38.1	1.50	53.8	2.12	275	4,000	1100	16,000	250.0	10.00	3.12	2.10
GH493-32	50.8	2.00	67.1	2.64	275	4,000	1100	16,000	320.0	12.50	4.18	2.81

Operating Temperature:

-40°C to +127°C (-40°F to +260°F)

Fittings:



4S/6S Series

Standard

EC415 Hydraulic Hose



Meets SAE 100R12

Part #	Hose I.D.		Hose O.D. (nominal)		Working Pressure		Min. Burst Pressure		Min. Bend Radius		Weight	
	mm	in	mm	in	bar	psi	bar	psi	mm	in	Kg/m	lbs/ft
EC415-06	9.5	0.38	20.3	0.80	280	4,050	1120	16,200	125	4.92	0.60	0.40
EC415-08	12.7	0.50	23.8	0.94	280	4,050	1120	16,200	180	7.09	0.74	0.50
EC415-10	15.9	0.62	27.7	1.09	280	4,050	1120	16,200	200	7.87	1.03	0.69
EC415-12	19.0	0.75	30.7	1.21	280	4,050	1120	16,200	240	9.45	1.16	0.78
EC415-16	25.4	1.00	38.0	1.50	280	4,050	1120	16,200	300	11.81	1.76	1.18
EC415-20	31.8	1.25	47.0	1.85	210	3,050	840	12,200	420	16.54	2.46	1.65
EC415-24	38.1	1.50	53.5	2.11	175	2,550	700	10,200	500	19.68	2.87	1.92
EC415-32	50.8	2.00	66.7	2.63	175	2,550	700	10,200	630	24.80	4.03	2.70

Operating Temperature:

-40°C to +121°C (-40°F to +250°F)

Fittings:



4S/6S Series

Inner Tube:

Synthetic rubber tube

Reinforcement:

4 wire spiral

Cover:

Synthetic rubber cover

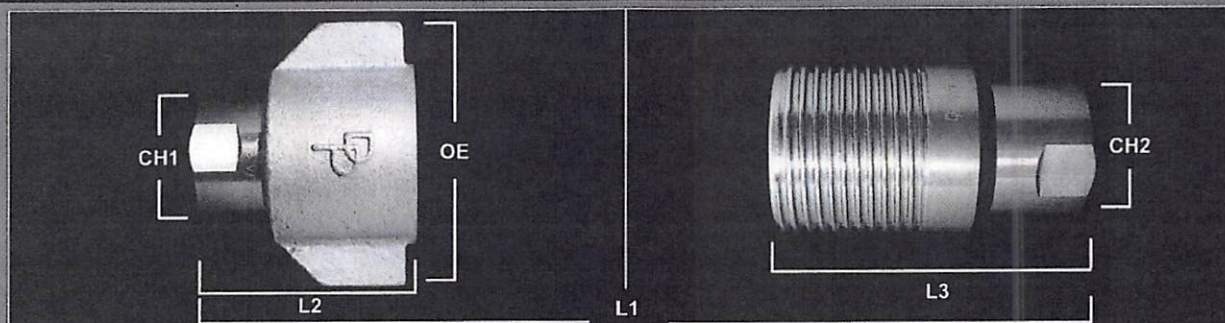
Typical Application:

Hydraulic systems service with petroleum and water based fluids, for general use.

MSHA Approved

VFF-HD SERIES QUICK COUPLINGS

Heavy Duty Wing Style - Screw to Connect
 Sizes: 3/4" thru 2"



Features and Benefits

- Wing style screw to connect
- 5,000 PSI working pressure
- Heavy duty design
- High flow rate
- Heavy duty acme threads

Applications

- VFF-HD has a universal design that can be used in any industry
- Used frequently in oilfield applications
- Applications needing high working pressures and high flow rates
- Oilfield services such as coiled tubing units, snubbing units, power swivels and much more

MATERIALS

Body: Carbon Steel
 Finishing: ZN-Fe
 Seals: NBR standard seals
 Threads: NPT

MAJOR INTERCHANGES

Dixon WS Hydraulics INC
 SnapTite 75

DIMENSIONAL & PRESSURE RATING DATA

Body Size	CH1	CH2	OE	L1	L2	L3	Flow Rate @ 14.7 PSI (GPM) (Connected)	Max Working (PSI)
12	1.39	1.39	2.24	4.86	2.74	3.28	40	5,000
16	1.78	1.78	2.76	6.90	3.33	4.17	60	5,000
20	2.14	2.14	3.25	7.24	4.29	5.37	82	5,000
24	2.50	2.50	3.80	8.30	5.00	6.00	110	5,000
32	3.25	3.25	4.71	9.33	6.00	7.06	240	5,000

units: inches

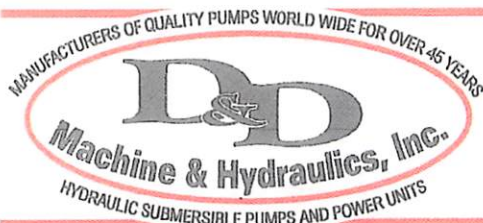
ORDERING INFORMATION

QUICK COUPLING PART NUMBERING SYSTEM:

VFF-HD-S - 12 - 12 - C - NPT

VFF-HD SERIES	Body Size	Body Size	Thread Size	Thread Size	Coupler / Nipple	Thread Type
Wing Style Heavy Duty 5K PSI Carbon Steel Coupling	12 3/4"	24 1-1/2"	12 3/4"	24 1-1/2"	C Coupler	NPT NPT
	16 1"	32 2"	16 1"	32 2"	N Nipple	
	20 1-1/4"		20 1-1/4"			

REFERENCES



D&D Machine & Hydraulics, Inc.
10945 Metro Parkway SE
Fort Myers, Florida 33966-1202
239-275-7177 • Fax 239-275-5350
E-mail: marketing@ddpumps.com
www.ddpumps.com

**D&D MACHINE & HYDRAULICS INC
REFERENCES
AXIAL FLOW SYSTEMS**

D&D has been successful in completing several large, new installation projects, including:

- (10) 42" Axial Flow systems to the Mexican Federal government for use on the Grand Canal project surrounding Mexico City - 2001
Contact: Juan Ponce, ITF, jponce@itf.com.mx. Ph: 305.443.8771
- (1) 42" Axial Flow system to the US Aid – Office of Foreign Disaster Relief, for flood relief in the country of Guyana - 2005
Contact: John Abood, USAID, jabood@usaid.gov. Ph: 202.712.1779
- (7) 42" Axial Flow systems for the Army Corps of Engineers for use at the Harvey Canal floodgate in New Orleans, Louisiana for the purposes of flood control during severe weather events - 2007
Contact: Doug Cotton, Kanoa Company, dcotton@kanoaco.com. Ph: 949.566.0165
- (17) 30" Axial Flow systems that are being used by Plaquemines Parish Public Works for flood control in Plaquemines Parish, Louisiana - 2007
Contact: Joe Cox, Hertz Service Pump, jcox@hertz.com. Ph: 504.371.6631
- (1) 42" Axial Flow system to TVA (Tennessee Valley Authority) for use in the Lacassine National Wildlife Refuge in Lake Arthur, Louisiana - 2008
Contact: Shannon Burks, TVA, slburks@tva.gov. Ph: 256.386.3969
- (1) 24" Axial Flow system for the Delacroix Pump Station in St Bernard Parish, New Orleans - 2009
Contact: Jay Pittman, Sopena Corporation, jay@crpittmanconstruction.com. Ph: 504.948.8540
- (1) 30" Axial Flow system for the Delacroix Pump Station in St Bernard Parish, New Orleans - 2009
Contact: Jay Pittman, Sopena Corporation, jay@crpittmanconstruction.com. Ph: 504.948.8540
- (1) 30" Axial Flow system to Guyana Sugar Corporation for agricultural purposes in the country of Guyana - 2010
Contact: Dilip Patel, FCT Technologies, fcttech@bellsouth.net. Ph: 305.259.4116
- (1) 16" Axial Flow system for the Reggio Pump Station in St Bernard Parish, New Orleans - 2010
Contact: J.J. Lee, HRL Contracting, jjhlee@hotmail.com. Ph: 601.799.1335

- (2) 30" Axial Flow pumpheads for South Florida Water Management District for the Troup Indiantown Project - 2010
Contact: Win Blodgett, Holland Pump, win@hollandpump.com. Ph: 912.466.0304
- (2) 30" Axial Flow systems for the City of Fort Myers for the Dean Park Neighborhood Drainage Improvements Project - 2011
Contact: Melanie Grigsby, City of Fort Myers, mgrigsby@cityftmyers.com. Ph: 239.321.7467
- (3) 42" Axial Flow systems for Dow Chemical in Freeport, Texas, for use at one of their chemical plants - 2011
Contact: Ashley Breed, Dow Chemical, ABreed@dow.com. Ph: 979.238.7381
- (1) 30" Axial Flow system for Bast-Hatfield in New York – 2013
Contact: Bob Chase, Bast-Hatfield. Ph: 518.944.8680
- (1) 36" Axial Flow system for Lafourche Parish, LA – 2013
Contact: Ryan Marmande, M&L Engine, rmarmande@mlengine.com. Ph: 985.857.8000
- 24" Axial Flow system for Lafourche Parish in Louisiana - 2014
Contact: Ryan Marmande, M&L Engine, rmarmande@mlengine.com. Ph: 985.857.8000
- 30" Axial Flow system for Lafourche Parish in Louisiana - 2014
Contact: Ryan Marmande, M&L Engine, rmarmande@mlengine.com. Ph: 985.857.8000
- (2) 48" Axial Flow systems for Lafourche Parish, LA – 2014
Contact: Ryan Marmande, M&L Engine, rmarmande@mlengine.com. Ph: 985.857.8000
- (5) 24" Axial Flow pumpheads for Xylem Dewatering – 2014
Contact: Darrin Ruiz, Xylem Dewatering, Darrin.Ruiz@Xyleminc.com. Ph: 585.344.3156
- (7) 30" Axial Flow pumpheads for Xylem Dewatering – 2014
Contact: Darrin Ruiz, Xylem Dewatering, Darrin.Ruiz@Xyleminc.com. Ph: 585.344.3156
- (2) 30" Axial Flow pumpheads for Xylem Dewatering – 2015
Contact: Darrin Ruiz, Xylem Dewatering, Darrin.Ruiz@Xyleminc.com. Ph: 585.344.3156
- (2) 24" Axial Flow pumpheads for Xylem Dewatering – 2016
Contact: Darrin Ruiz, Xylem Dewatering, Darrin.Ruiz@Xyleminc.com. Ph: 585.344.3156
- (2) 24" Axial Flow pumpheads for Xylem Dewatering – 2016
Contact: Darrin Ruiz, Xylem Dewatering, Darrin.Ruiz@Xyleminc.com. Ph: 585.344.3156
- (2) 24" Axial Flow pumpheads for Xylem Dewatering – 2017
Contact: Darrin Ruiz, Xylem Dewatering, Darrin.Ruiz@Xyleminc.com. Ph: 585.344.3156

(1) 30" Axial Flow system for City of Fort Myers for emergency flood relief after Hurricane Irma – 2017

Contact: Richard Thompson, City of Fort Myers. Ph: 239.321.8050

(1) 30" Axial Flow pumphead for Evergreen Mountain Contracting – 2017

Contact: Mike Petosa, Evergreen Mountain Contracting, evergreenmtn@aol.com.

Ph: 518.989.9400

(1) 24" Axial Flow pump system for Creel Pump (end-user Seminole Indian Tribe) – 2017

Contact: Kevin, Creel Pump, kevin@creelpump.com. Ph: 860.840.1799

(1) 30" Axial Flow pumphead for Prescott Pump Station, St Charles Parish, LA – 2017

Contact: Ellis Collins, St Charles Parish Department of Public Works, ecollins@stcharlesgov.net.

Ph: 985.783.1315

(1) 30" Axial Flow pumphead for Prescott Pump Station, St Charles Parish, LA – 2017

Contact: Ellis Collins, St Charles Parish Department of Public Works, ecollins@stcharlesgov.net.

Ph: 985.783.1315

ISO 9001:2008 CERTIFICATE



PERRY JOHNSON REGISTRARS, INC.

Certificate of Registration

Perry Johnson Registrars, Inc., has audited the Quality Management System of:

D&D Machine & Hydraulics, Inc.
10945 Metro Parkway SE, Fort Myers, FL 33966

*(Hereinafter called the Organization) and hereby declares that
Organization is in conformance with:*

ISO 9001:2008

This Registration is in respect to the following scope:

Manufacturer of Hydraulically Driven Submersible Pumps and Systems

*This Registration is granted subject to the system rules governing the Registration referred to above, and the
Organization hereby covenants with the Assessment body duty to observe and comply with the said rules.*



Terry Boboige

Terry Boboige, President

Perry Johnson Registrars, Inc. (PJR)
755 West Big Beaver Road, Suite 1340
Troy, Michigan 48084
(248) 358-3388

*The use of the UKAS accreditation symbol is in respect to the activities
covered by the Accreditation Certificate Number 0105.*

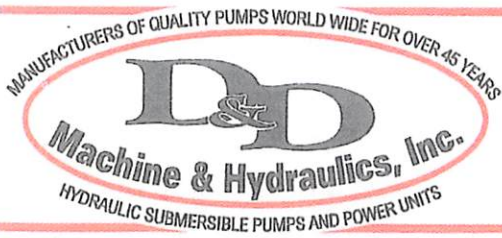
The validity of this certificate is dependent upon ongoing surveillance.

Effectivity Date:
June 17, 2016

Expiration Date:
September 14, 2018

Certificate No.:
C2016-01629

WARRANTY



D&D Machine & Hydraulics, Inc.
10945 Metro Parkway SE
Fort Myers, Florida 33966-1202
239-275-7177 • Fax 239-275-5350
E-mail: marketing@ddpumps.com
www.ddpumps.com

WARRANTY

D & D Machine makes every effort to assure that its products are of high quality and warrants all new products of its manufacture to be free from defects in material and/or workmanship for a period of one year or 1,000 hours, whichever comes first.

This warranty shall not apply to defects due to alteration, abuse, or normal wear. Specifically excluded from this warranty are the pump shaft seal and wear due to a "dry sand" condition (a condition that exists when the pump is buried in the material and material being pumped consists of less than 25% liquid).

The sole remedy with respect to warranty of any of our products shall be to repair or replace at our election. All material to be considered for warranty must be returned to D & D Machine with F.O.B. at point of manufacture.

Under no circumstances will we be responsible for any other direct or consequential damages, including but not limited to lost profits, lost income, labor charges, delays in production, idle production, whether damages are caused by any defects in material and/ or workmanship, and/ or damage or delays in shipment.

The diesel engine warranty reverts to the engine manufacturer.

Your acceptance of any goods supplied by us, or on our behalf, shall without limitation constitute acceptance of all terms and conditions stated above.

The above warranty applies to new & factory refurbished units.

Routine and preventive maintenance are not included under warranty.