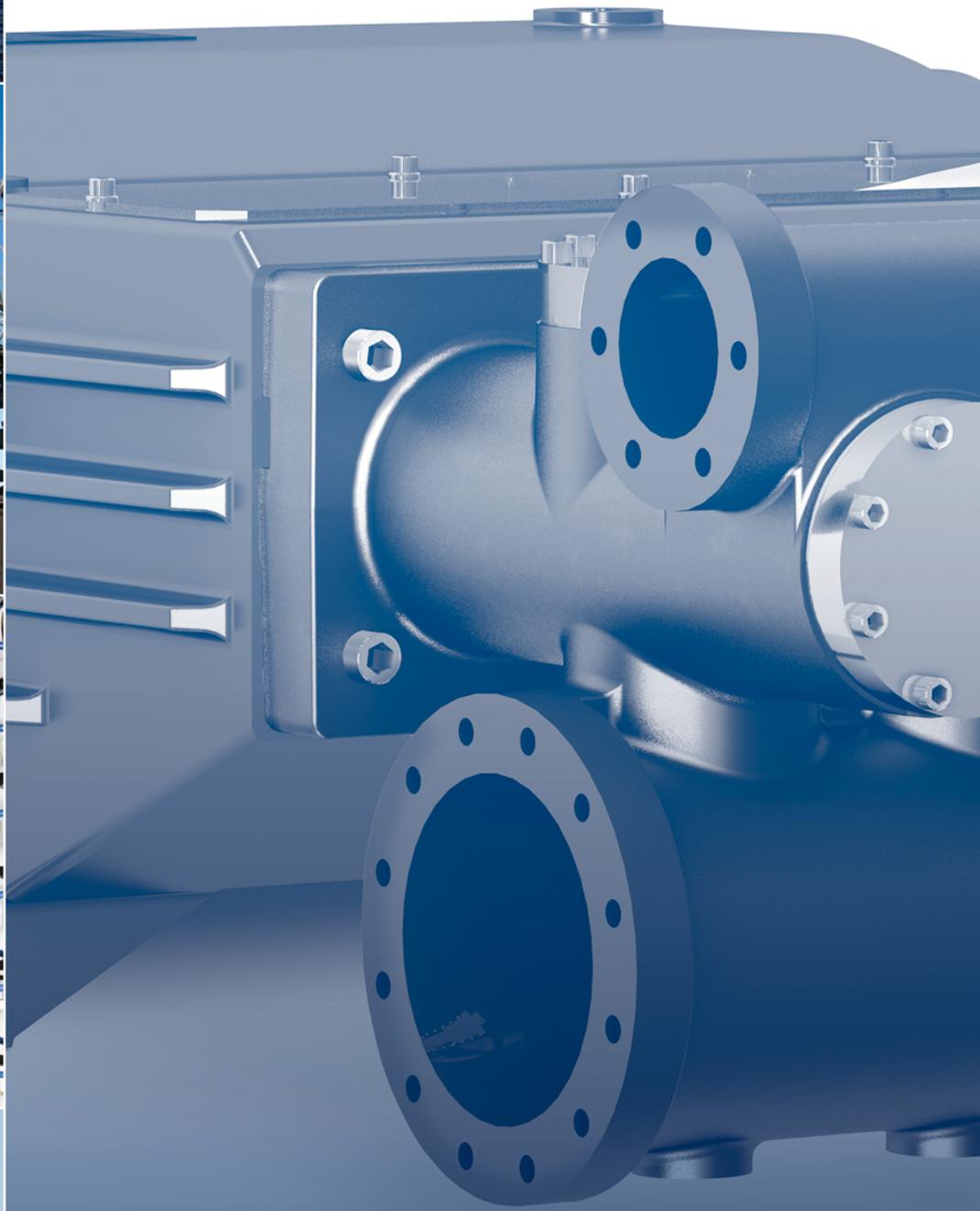




**RAM PUMPS**

Meeting The Toughest Challenges



# 170 HCH SERIES

Quintuplex Plunger Pumps



## Quality Products, Exceptional Customer Service

RAM Pumps Ltd.'s portfolio of Triplex & Quintuplex pump packages are designed and manufactured to the highest degree of precision to ensure total reliability and durability is maintained throughout our range.

RAM Pumps design is in full compliance to API674 along with most industry standards including, ISO 9001/2008, ATEX, EC P.E.D., NACE, Norsok, and GOST. These standards are rigorously maintained to ensure complete inclusion into the most arduous and demanding applications worldwide.

RAM Pump's commitment to flexible design and scope conformance has supported the evolution of a truly comprehensive supply. Including such auxiliary options as:

- Self-driven lubrication systems for both drive and seal arrangements.
- Condition monitoring to customer expectation and specification
- Multiple drive options and adaptations
- Direct mounting of dampers, PVS's etc. to the process fluid end for maximum effectiveness.

### Common Applications Include:

#### Oil and Gas

Glycol Injection or  
Regeneration  
Methanol Injection  
Hydrocarbon Condensate  
Hydro Test

#### Water Production

Drill Cutting Re-Injection  
Miscible Gas Injection  
Fracking  
Liquid Condensate  
Injection

#### Reverse Osmosis

Desalination  
Food Processing  
Pharmaceuticals

#### Industrial

Water Jetting  
De-Scaling  
Boiler Feed

# Quality Focused Design and Manufacturing

High quality taper roller bearings ensure extended operation and improved load transfer with the ability to accommodate higher axial forces

Precision ground and hardened carbon steel crankshaft designed for continual service

Solid valve arrangements with specific process wetted material selection

Fluid head castings and materials all supplied from UK & European foundries operating to ISO, ABS, LR and DNV Standards

Forced drive lubrication system incorporated as standard. Lubricating centre main bearings as well as large and small end con rod journals

Packing sets are designed for each specific operation. Additional options can be incorporated including:

- Packing lubrication
- Seal flush
- Self energising seal sets
- Leak detection and monitoring

Plungers are hard-faced Ni-Cr coated for sustained operation at varying temperatures, extending packing life whilst minimizing corrosion. Additional materials available to meet application requirements

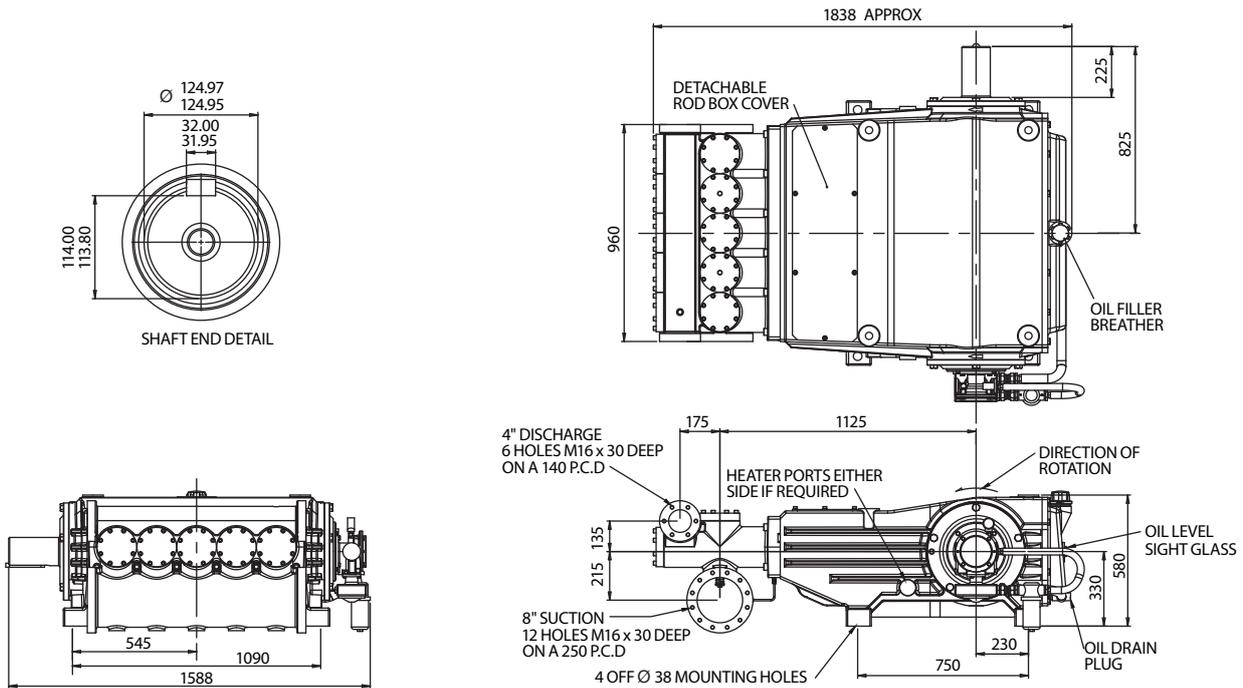
## RAM 170 HCH PERFORMANCE

Bore	Stroke	Max RPM (API)	Max RPM (Non API)	Max Flow (API) lpm / gpm	Max Flow (Non-API) lpm / gpm
100	170	270	360	1,712 / 452.4	2,283 / 603
95	170	270	360	1,545 / 408.3	2,061 / 544.3
90	170	270	360	1,387 / 366.4	1,849 / 488.5
85	170	270	360	1,237 / 326.8	1,650 / 435.8
80	170	270	360	1,096 / 289.5	1,461 / 386
75	170	270	360	963 / 254.5	1,284 / 339.3
70	170	270	360	839 / 221.7	1,119 / 295.5
65	170	270	360	723 / 191.1	965 / 254.8
60	170	270	360	616 / 162.8	822 / 217.1
55	170	270	360	518 / 136.8	691 / 182.5

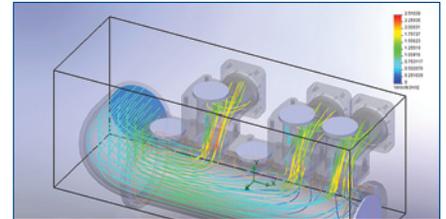
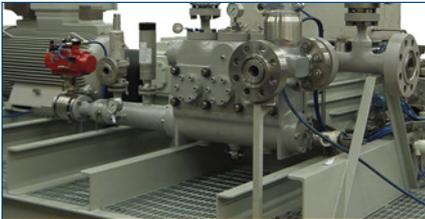
MAXIMUM PRESSURES		
Material	BAR G	PSI
Carbon Steel WCB	165	2,393
Carbon Steel Gr 90 60	341	4,946
316 Stainless Steel	147	2,132
Duplex 22% CR	225	3,263
Super Duplex 25% Chrome	239	3,466
Inconel 625	250	3,626

\*Maximum absorbed power rating for the Ram 170 HCH Series is 282 kW – Please ensure specific application data is calculated to determine maximum absorbed power required.

# Dimensional Drawing



## Standard Supply Scope



### Packaged Equipment

- Motors & Drives
- Diesel / Gas Engines
- Transmission
- Structural Fabrication
- Pulsation Management
- Valves & Filtration
- Instrumentation
- Electrical Control
- Lubrication Systems
- VSD / VFD Units
- PLC Control Systems
- Heating & Cooling
- Specialist Painting

### Inspection & Testing

- Material Certification 3.1, 3.2
- Hydrostatic Testing
- Performance Testing
- Mechanical Testing
- NDE - PMI, UT, DP, RT, MPI
- NPSH Testing
- Pulsation Analysis API674
- Mechanical Response Analysis
- ISO 9001 2008 Accredited
- ISO 14001 Accredited
- Supply to ABS, DNV, LR, KR
- Supply to NORSOK Standards
- NACE Compliance

### Project Services

- Dedicated Project Teams
- In House 3D Design
- FEA Analysis Verification
- Comprehensive Project Documentation
- Automated Document Tracking
- TPI Support Service
- Global Commissioning Service
- On Site Testing Verification
- Onshore / Offshore Engineering Support
- Aftersales & Support Network
- Global Representation
- Comprehensive Warranty Scheme
- Global Logistics Support

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