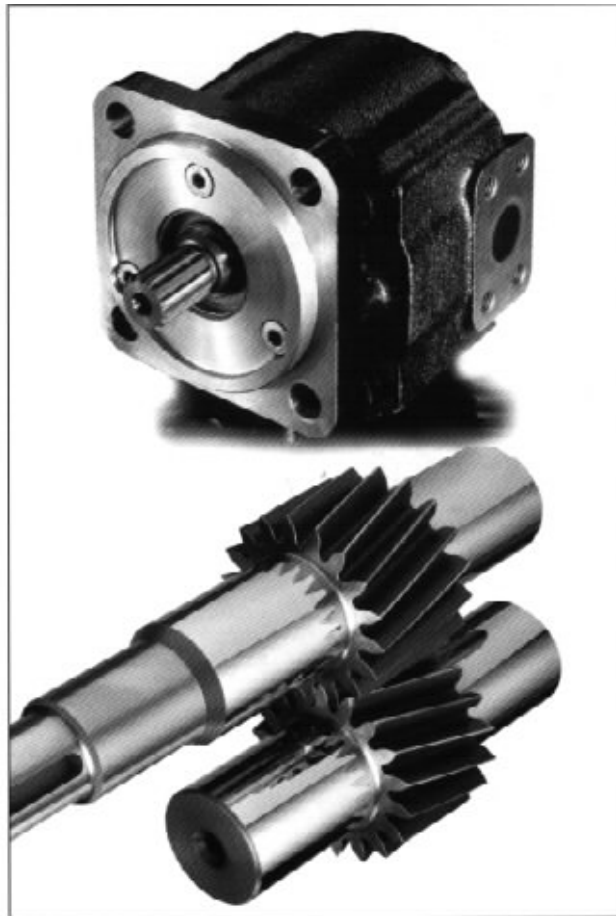


QS7

HYDRAULIC GEAR PUMPS



QS7 DIMENSIONAL DATA (S SERIES ONLY AVAILABLE)

Note Drawings show clockwise rotation pumps. For anti-clockwise rotation pumps reverse the inlet and outlet port positions. (Rotation convention - view from pump shaft end).

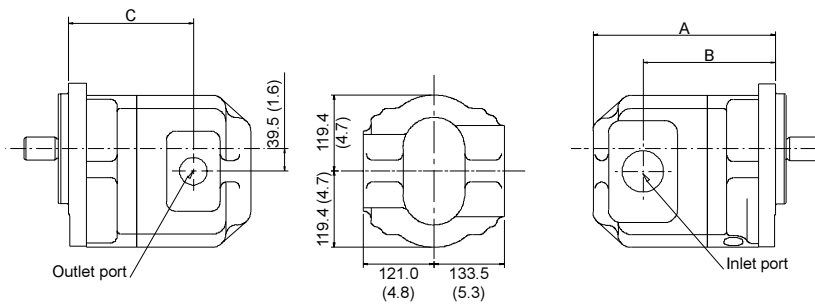
Full detailed dimensions are shown on the relevant pages covering drive shafts, mounting flanges and ports.

SINGLE PUMPS - standard ports

Code **A**

Example

S1A7155C51 **A** 1L1HA

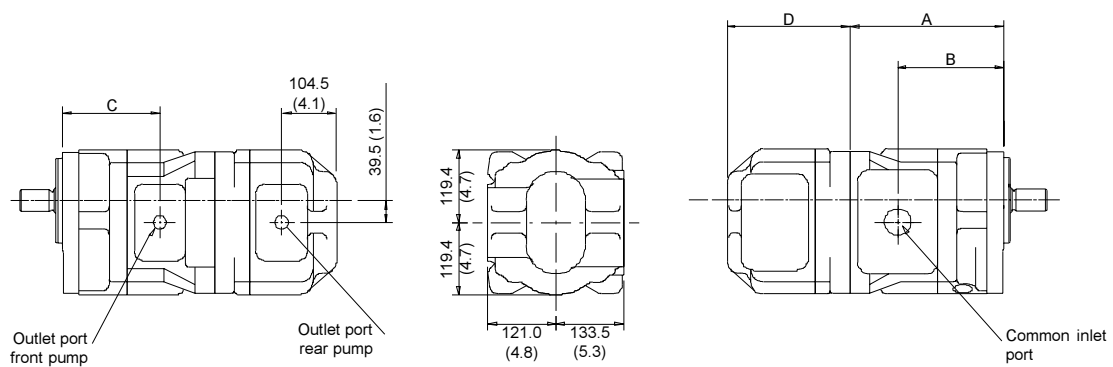


DOUBLE PUMPS - 1 inlet/2 outlets

Code **A**

Example

S1A7155S7155C52 **A** 1M1H1M1HA

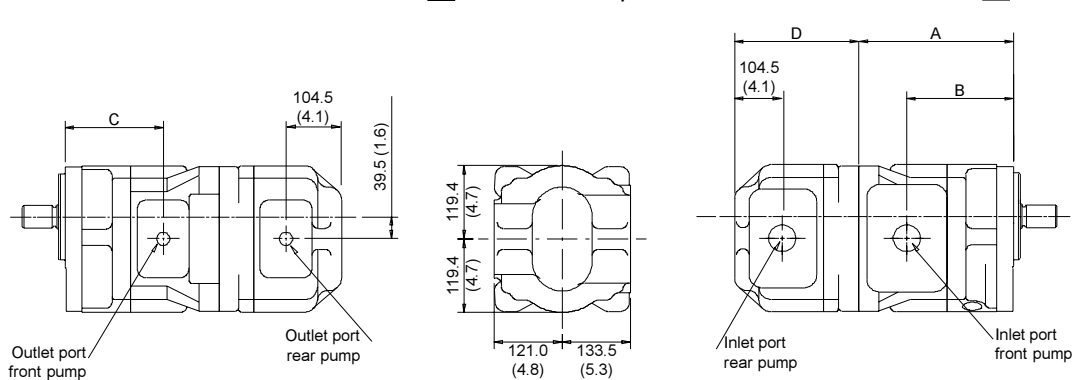


DOUBLE PUMPS - 2 inlets/2 outlets

Code **B**

Example

S1A7155S7155C52 **B** 1L1H1L1HA



TRIPLE AND QUADRUPLE PUMPS - See Pages 38 and 39.

QS7 DIMENSIONAL DATA, PERFORMANCE DATA

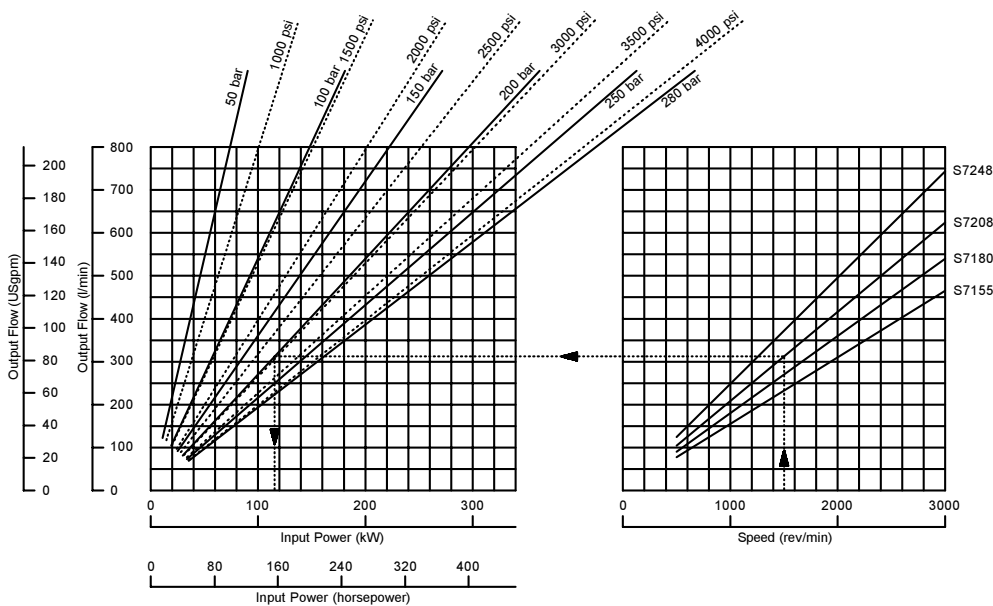
| PUMP | A | B | C | D | WEIGHT kg (lb) | | |
|--------------|-----------------|----------------|----------------|------------|----------------------|-----------------|-----------------|
| | mm (in) | mm (in) | mm (in) | mm (in) | Single* | Front* | Rear* |
| S7155 | 288.0 (11.3) | 183.0 (7.2) | 183.0 (7.2) | ~ | 79.0 (174) | 84.0 (185.0) | 67.0 (147.0) |
| S7180 | 296.0 (11.7) | 191.0 (7.5) | 191.0 (7.5) | ~ | 82.0 (180.0) | 87.0 (1910) | 70.0 (154.0) |
| S7208 | 305.0 (12.0) | 201.0 (7.9) | 201.0 (7.9) | ~ | 86.0 (190.0) | 91.0 (200.0) | 74.0 (163.0) |
| S7248 | 318.0 (12.5) | 214.0 (8.4) | 214.0 (8.4) | ~ | 91.0 (200.0) | 96 (211.0) | 79.0 (174.0) |

~ Please contact your David Brown Hydraulics' representative.

*** Note** Weights are approximate
Double pump weight = (front + rear) weights

PERFORMANCE

Curves drawn for average pumps at 50°C (120°F). Fluid viscosity 23 mm²/sec (110 SSU).



OUTPUT FLOWS are theoretical. Generally volumetric efficiencies are in excess of 95%. Your David Brown Hydraulics' representative will advise for specific conditions.

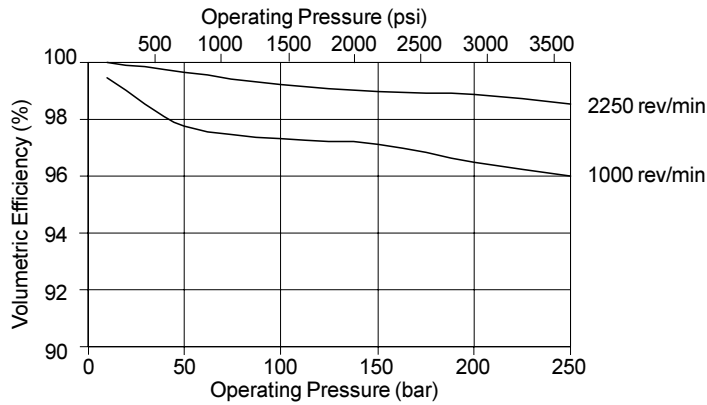
INPUT POWERS are actual, taking into account average efficiencies. Please consult your David Brown Hydraulics' representative when output pressure is less than 50 bar.

Example S7208 at 1500 rev/min gives output flow of 302 l/min (80 US gal/min) and requires 118 kW (159 hp) to drive it at 200 bar (2900 psi).

QS7 EFFICIENCIES, NOISE LEVELS, MOMENTS OF INERTIA

PUMP EFFICIENCIES

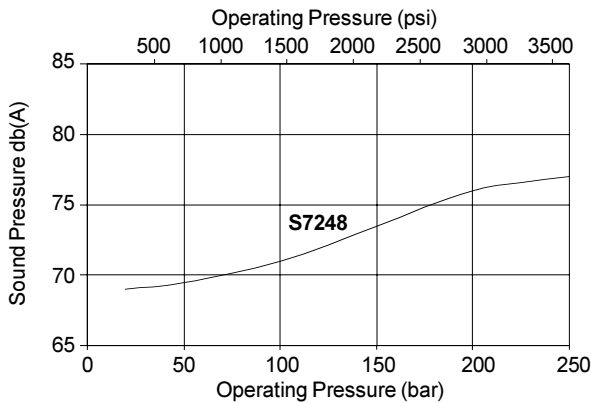
All Q Series pumps share very high efficiencies. The graph shows typical QS7 volumetric efficiency curves at 1000 and 2250 rev/min.



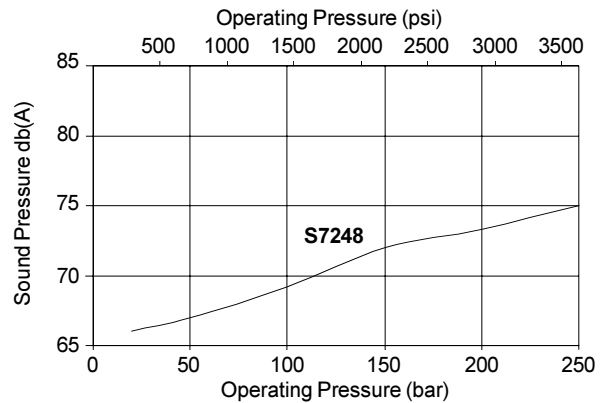
NOISE LEVELS

As described on Page 6, the reduction of noise levels was a major factor in the development of the Q Series pumps. The following graphs show QS7 sound pressure levels at one metre from the pump derived from measurements of sound power levels to ISO9614-4.

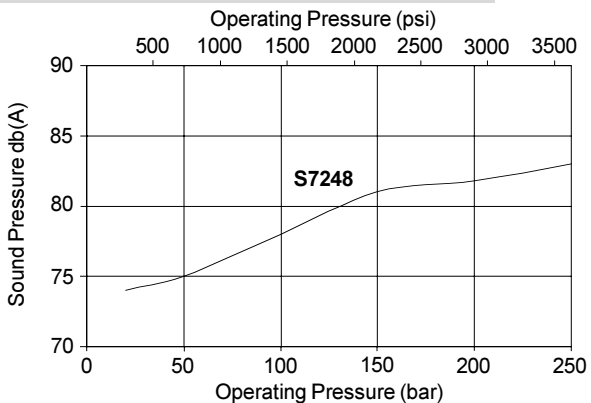
Q7 Sound Pressure at 1 metre - 1000 rpm



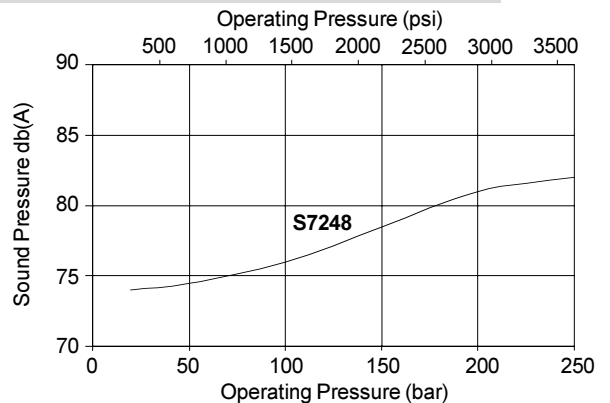
Q7 Sound Pressure at 1 metre - 1500 rpm



Q7 Sound Pressure at 1 metre - 1800 rpm



Q7 Sound Pressure at 1 metre - 2250 rpm



MOMENTS OF INERTIA

QS7 SERIES

| PUMP SIZE | | S7155 | S7180 | S7208 | S7248 |
|-------------------|---|------------------|------------------|------------------|------------------|
| Moment of Inertia | kg cm ² (lb in ²) | 60.33 (20.51) | 65.21 (22.17) | 70.68 (24.03) | 78.49 (26.69) |

QS7 SHAFT SEALS & DRIVE SHAFTS

SHAFT SEALS

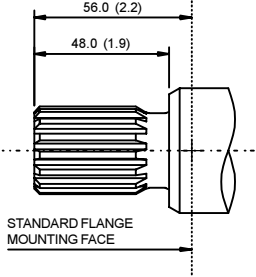
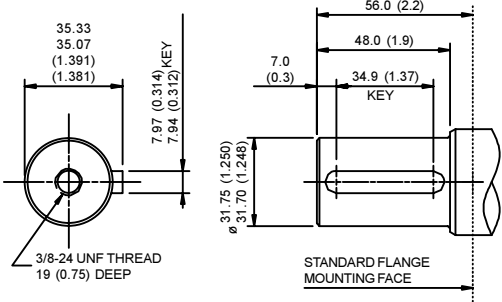
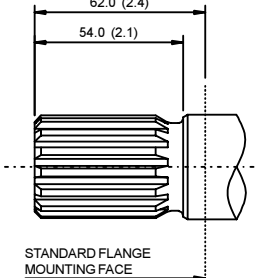
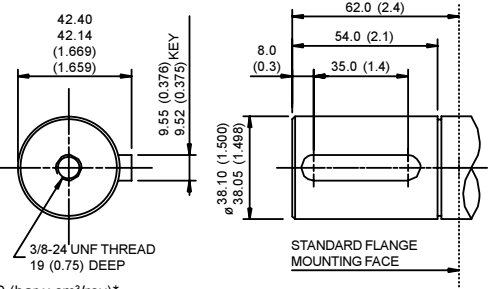
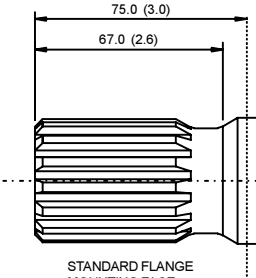
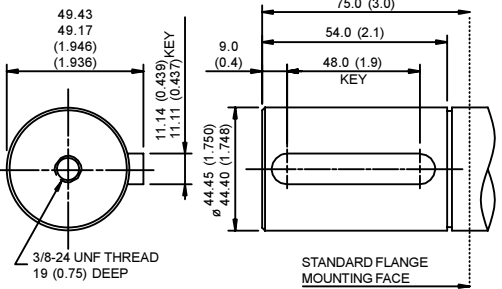
Code **A** Shaft seal and wiper for external drives

Example S1**A**7155C51A1L1HA

Code **C** Shaft seal, wiper and seal with tell-tale hole for torque converter and gearbox drives. The tell-tale hole indicates leakage before mixing of fluids can occur.

Example S1**C**7155C51A1L1HA

DRIVE SHAFTS

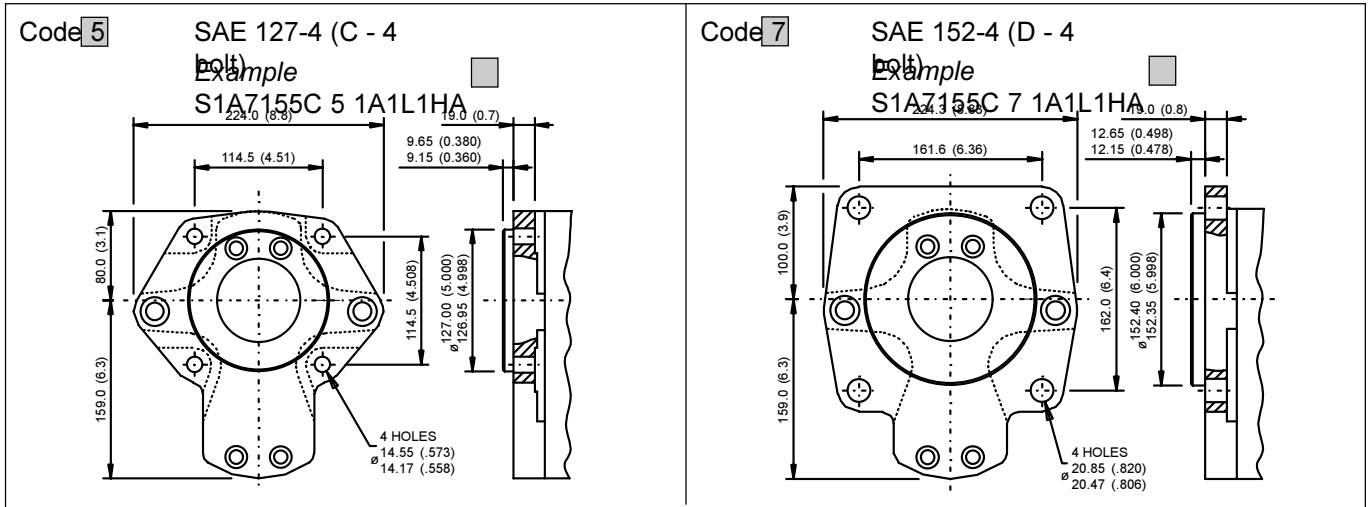
| | |
|--|--|
| <p>Code C SAE 32-4 (C) 1.1/4" spline Example S1A7155C51A1L1HA</p> <p>INVOLUTE SPLINE 14 TEETH 12/24 DP FLAT ROOT SIDE FIT 30° PRESSURE ANGLE MAJOR DIA: 31.22/31.12 (1.229/1.225)</p>  <p>STANDARD FLANGE MOUNTING FACE</p> <p>p x D = 45565 (bar x cm³/rev)* p x D = 40325 (psi x cu.in/rev)*</p> | <p>Code G SAE 32-1 (C) 1.1/4" parallel Example S1A7155G51A1L1HA</p>  <p>STANDARD FLANGE MOUNTING FACE</p> <p>p x D = 45565 (bar x cm³/rev)* p x D = 40325 (psi x cu.in/rev)*</p> |
| <p>Code T SAE 38-4 (CC) 1.1/2" spline Example S1A7155T51A1L1HA</p> <p>INVOLUTE SPLINE 17 TEETH 12/24 DP FLAT ROOT SIDE FIT 30° PRESSURE ANGLE MAJOR DIA: 37.57/37.44 (1.479/1.474)</p>  <p>STANDARD FLANGE MOUNTING FACE</p> <p>p x D = 86950 (bar x cm³/rev)* p x D = 76950 (psi x cu.in/rev)*</p> | <p>Code N SAE 38-1 (CC) 1.1/2" parallel Example S1A7155N51A1L1HA</p>  <p>STANDARD FLANGE MOUNTING FACE</p> <p>p x D = 86950 (bar x cm³/rev)* p x D = 76950 (psi x cu.in/rev)*</p> |
| <p>Code D SAE 44-4 (D) 1.3/4" spline Example S1A7155D5A1A</p> <p>INVOLUTE SPLINE 13 TEETH 8/16 DP FLAT ROOT SIDE FIT 30° PRESSURE ANGLE MAJOR DIA: 43.71/43.59 (1.721/1.716)</p>  <p>STANDARD FLANGE MOUNTING FACE</p> <p>p x D = 121400 (bar x cm³/rev)* p x D = 107439 (psi x cu.in/rev)*</p> | <p>Code P SAE 44-1 (D) 1.3/4" parallel Example S1A7155P51A1L1HA</p>  <p>STANDARD FLANGE MOUNTING FACE</p> <p>p x D = 121400 (bar x cm³/rev)* p x D = 107439 (psi x cu.in/rev)*</p> |

* p = outlet pressure, D = displacement. The stated values must not be exceeded.

Note For multiple pumps the sum of the p x D values must not exceed the stated value. See Page 38.

QS7 MOUNTING FLANGES, PORTS - SINGLE PUMPS

MOUNTING FLANGES



NUMBER OF PUMP SECTIONS AND INLET PORT POSITIONS

Code **A**

SINGLE PUMP *Example*

S 1 A 7 2 4 8 5 5 1 A 1 M 1 K C

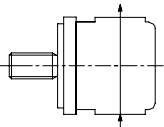
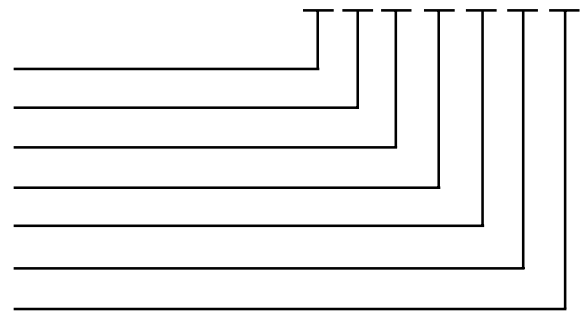


Fig 1

Number of pump sections
 Inlet port position - see fig 1
 Inlet port type - see table 1
 Inlet port size - see table 1



A = anti-clockwise
 C = clockwise

Code **C**

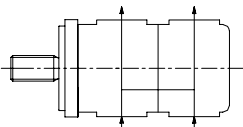


Fig 2

Outlet port type - see table 2
 2
 Outlet port size - see table 2
 Rotation - viewed from shaft

MULTI PUMP *Example*

Code **A**

S 1 A 7 2 0 8 S 7 1 8 0 T 5 2 B 1 L 1 H 1 L 1 H C

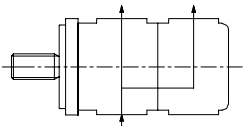
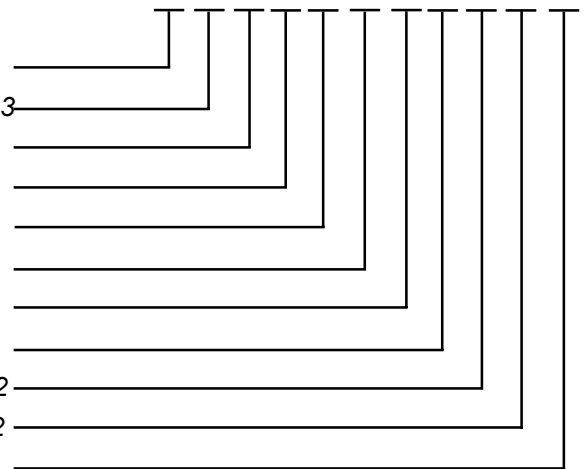


Fig 3

Number of pump sections
 Inlet port position - see figs 2 or 3
 1st Inlet port type - see table 1
 1st Inlet port size - see table 1
 1st Outlet port type - see table 2
 1st Outlet port size - see table 2
 2nd Inlet port type - see table 1
 2nd Inlet port size - see table 1
 2nd Outlet port type - see table 2
 2nd Outlet port size - see table 2
 Rotation - viewed from shaft



A = anti-clockwise
 C = clockwise

QS7 PORTS - DOUBLE PUMPS - SAE FLANGE DETAILS

INLET PORT OPTIONS - Table 1

| Port Type | SINGLE PUMP INLET PORT OPTIONS | | | | | | | | COMMON INLET PORT OPTIONS | | | | | | | | DUAL INLET PORT OPTION | | | | | | | |
|----------------|--------------------------------|---|-------|---|----------------|---|-------|---|---------------------------|------|---|---|----------------|-------|---|---|------------------------|---|-------|---|----------------|---|-------|---|
| Port Type Code | 1 | | | | 2 | | | | 1 | | | | 2 | | | | 1 | | | | 2 | | | |
| Port Type | SAE Flange Metric | | | | SAE Flange UNC | | | | SAE Flange Metric | | | | SAE Flange UNC | | | | SAE Flange Metric | | | | SAE Flange UNC | | | |
| Port Size Code | H | K | L | M | H | K | L | M | K | L | M | N | K | L | M | N | H | K | L | M | H | K | L | M |
| Port Size | 1.1/2 | 2 | 2.1/2 | 3 | 1.1/2 | 2 | 2.1/2 | 3 | 2 | 2.12 | 3 | 4 | 2 | 2.1/2 | 3 | 4 | 1.1/2 | 2 | 2.1/2 | 3 | 1.1/2 | 2 | 2.1/2 | 3 |
| S7155 | □ | □ | ■ | □ | □ | □ | ■ | □ | □ | □ | ■ | □ | □ | □ | ■ | □ | □ | □ | ■ | □ | □ | □ | ■ | □ |
| S7180 | □ | □ | ■ | □ | □ | □ | ■ | □ | □ | □ | ■ | □ | □ | □ | ■ | □ | □ | □ | ■ | □ | □ | □ | ■ | □ |
| S7208 | □ | □ | □ | ■ | □ | □ | □ | ■ | □ | □ | ■ | □ | □ | □ | ■ | □ | □ | □ | □ | ■ | □ | □ | □ | ■ |
| S7248 | □ | □ | □ | ■ | □ | □ | □ | ■ | □ | □ | ■ | □ | □ | □ | ■ | □ | □ | □ | □ | ■ | □ | □ | □ | ■ |

- Preferred port size
- Non-preferred port size

Note: When coding, for single inlet multiple pumps, use 'O' in '2nd inlet port position' and 'X' in '2nd inlet port type' in the model number.

OUTLET PORT OPTIONS - Table 2

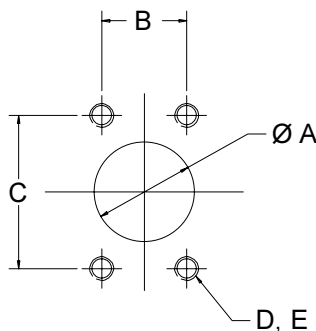
| Port Type Code | 1 | | | | | | 2 | | | | | |
|----------------|-------------------|-----|---|-------|-------|---|----------------|-----|---|-------|-------|---|
| Port Type | SAE Flange Metric | | | | | | SAE Flange UNC | | | | | |
| Port Size Code | A | B | D | F | H | K | A | B | D | F | K | K |
| Port Size | 1/2 | 3/4 | 1 | 1.1/4 | 1.1/2 | 2 | 1/2 | 3/4 | 1 | 1.1/4 | 1.1/2 | 2 |
| S7155 | □ | □ | □ | □ | ■ | □ | □ | □ | □ | □ | ■ | □ |
| S7180 | □ | □ | □ | □ | ■ | □ | □ | □ | □ | □ | ■ | □ |
| S7208 | □ | □ | □ | □ | □ | ■ | □ | □ | □ | □ | □ | ■ |
| S7248 | □ | □ | □ | □ | □ | ■ | □ | □ | □ | □ | □ | ■ |

- Preferred port size
- Non-preferred port size

MULTIPLE PUMPS - Please consult your David Brown representative.

SAE FLANGE PORT DETAILS

SAE code 61.
Standard pressure series



| SAE FLANGE SIZE | A mm (in) | B mm (in) | C mm (in) | D | E DEPTH mm (in) |
|-----------------|-----------|-----------|-----------|-------------|-----------------|
| 1.1/2" | 38.1 | 35.7 | 70.0 | M12x1.75 | 26.9 |
| | (1.50) | (1.406) | (2.750) | 1/2"-13 UNC | (1.06) |
| 2" | 50.8 | 42.9 | 77.9 | M12x1.75 | 26.9 |
| | (2.00) | (1.688) | (3.062) | 1/2"-13 UNC | (1.06) |
| 2.1/2" | 63.5 | 50.8 | 89.0 | M12x1.75 | 30.2 |
| | (2.50) | (2.00) | (3.50) | 1/2"-13 UNC | (1.19) |
| 3" | 76.2 | 61.9 | 106.4 | M16x2.00 | 30.2 |
| | (3.00) | (2.44) | (4.19) | 5/8"-11 UNC | (1.19) |



SUBSIDIARY COMPANIES

AUSTRALIA

David Brown Engineering & Hydraulics (Pty) Ltd
- Sydney
Telephone: +61(0)2 9838 6800
Facsimile: +61(0)2 9838 6899
E-mail: gtuffy@dbeh.com.au

DENMARK

David Brown Hydraulics Danmark A/S
- Copenhagen
Telephone: +45 32 51 4015
Facsimile: +45 32 51 2022
E-mail: david-brown@david-brown.dk

FINLAND

David Brown Hydraulics Finland OY
- Helsinki
Telephone: +358 9 342 4120
Facsimile: +358 9 342 41236
E-mail: jouko.mainola@davidbrownhydraulics.fi

FRANCE

David Brown Hydraulics France SA
- Lyon
Telephone: +33(0)4 72 47 03 03
Facsimile: +33(0)4 78 90 46 39
E-mail: davidbrownhydraulics@wanadoo.fr

GERMANY

David Brown Hydraulics Deutschland GmbH
- Ratingen
Telephone: +49(0)2102 99680
Facsimile: +49(0)2102 996822
E-mail: davidbrown@t-online.de

ITALY

David Brown Hydraulics Italia Srl
- Vignola (MO)
Telephone: +39 059 7700411
Facsimile: +39 059 7700425
E-mail: dbitalia@tin.it

NORWAY

David Brown Hydraulics Norway A/S
- Oslo
Telephone: +47 2290 9410
Facsimile: +47 2290 9411
E-mail: davidbrown@davidbrown.no

SWEDEN

David Brown Hydraulics AB
- Stockholm
Telephone: +46(0)8 445 73 60
Facsimile: +46(0)8 445 73 69

UNITED STATES

David Brown Hydraulics Inc
- Greenville, Ohio
Telephone: +1 937 548 3166
Facsimile: +1 937 548 8712
E-mail: jhill@hrtextron.textron.com

TEXTRON MOTION CONTROL COMPANIES

WILLIAMS

Williams Machine & Tool Co
PO Box 12427, Omaha, NE6811209427
United States
Telephone: +1 402 451 5553
Facsimile: +1 402 451 1242

ENERGY

Energy Hydraulics
204 Plastic Lane, Monticello, Iowa 5310
United States
Telephone: +1 319 465 3537
Facsimile: +1 319 465 5279



David Brown Hydraulics Limited

Fleets Corner
Poole, Dorset
England, BH17 0LB
Telephone: +44(0)1202 441200
Facsimile: +44(0)1202 665666
E-mail: info.hydraulics@davidbrown.com
Web Site: www.davidbrownhydraulics.com