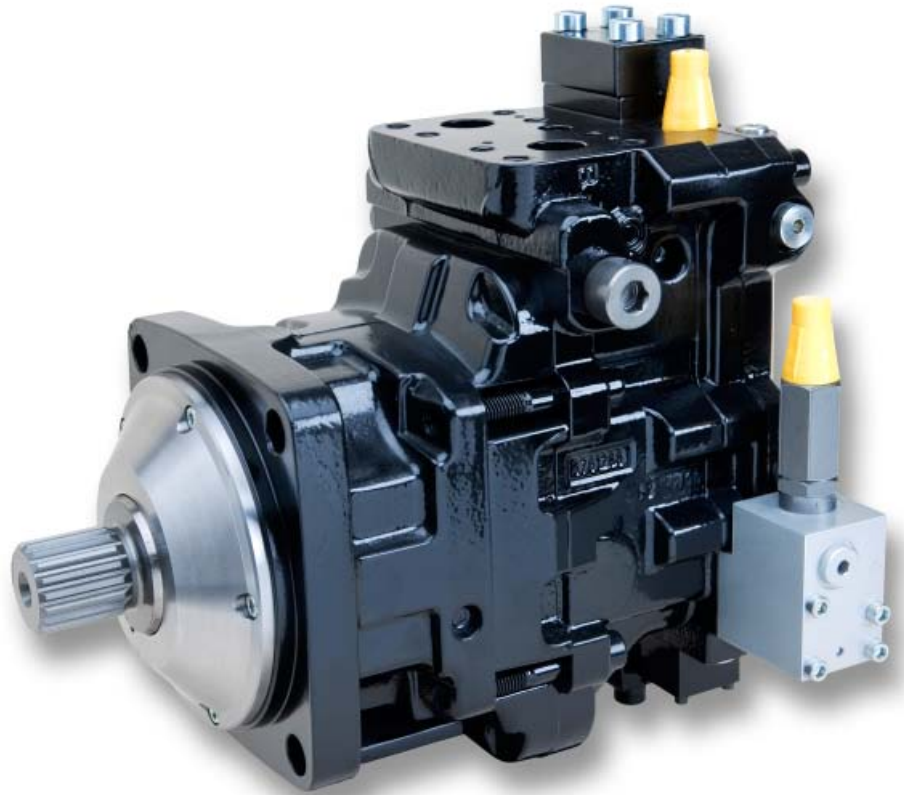




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Hydraulic Motors

Series V14 Variable Displacement
-A new control suitable for winch applications



ENGINEERING YOUR SUCCESS.

New EPC/HPC winch control, EP/HP control with pressure cut off.

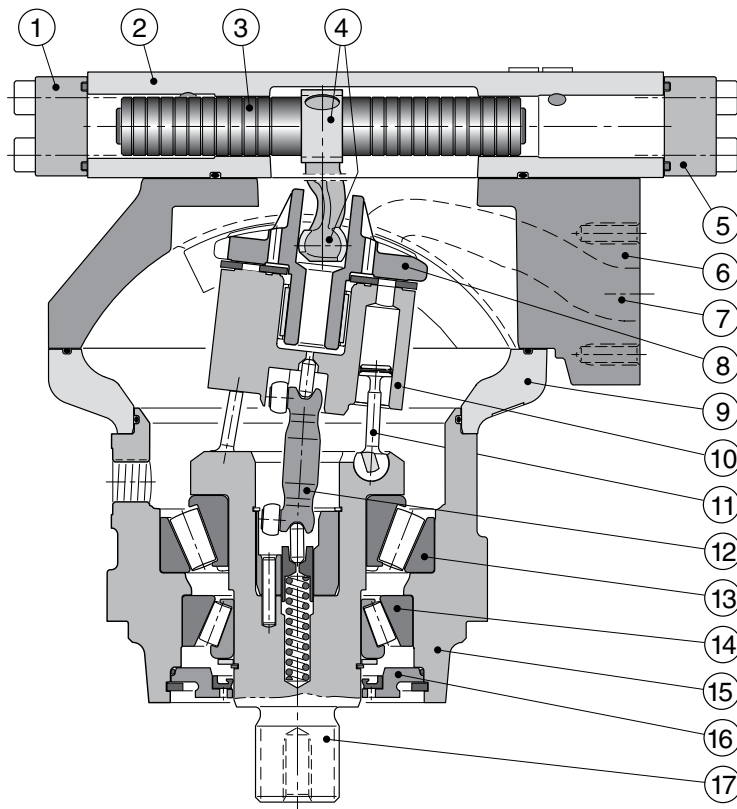
EPC/HPC - a new way to improve winch operation and productivity

Smooth winch operation and good operator comfort	Control with optimal stability and response
High start torque and low noise	Nine piston design
High reliability	Capable to work under extreme conditions
Low operational cost	High efficiency in most working conditions

The new EPC/HPC control will be suitable in many motor applications such as winch and hoisting drives, construction machines like mobile cranes etc.

V14 cross section

1. End cover, min displ.
2. Control module
3. Setting piston
4. Connecting arm
5. End cover, max displ.
6. Connection module
7. Main pressure port
8. Valve segment
9. Intermediate housing
10. Cylinder barrel
11. Spherical piston with laminated piston ring
12. Synchronizing shaft
13. Inner roller bearing
14. Outer roller bearing
15. Bearing housing
16. Shaft seal with retainer
17. Output shaft



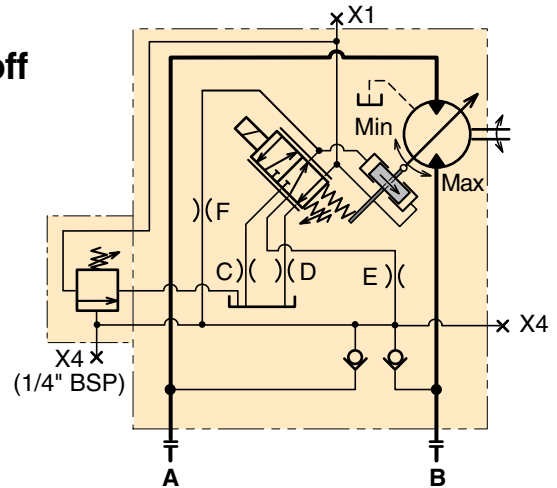
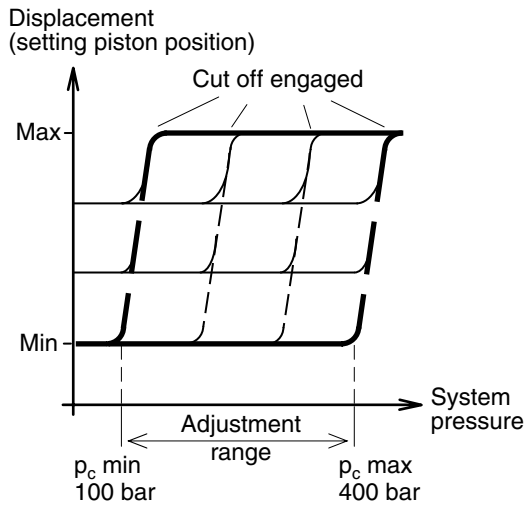
Specifications

V14 frame size	110	160	V14 frame size	110	160
Displacement [cm ³ /rev]			Flow [l/min]		
- at 35° (max)	110	160	- max intermittent ¹⁾	430	550
- at 6.5° (min)	22	32	- max continuous	375	480
Operating pressure [bar]			Output torque [Nm]		
- max intermittent ¹⁾	480	480	at 100 bar (theor.)	175	255
- max continuous	420	420	Max output power ¹⁾ [kW]	262	335
Operating speed [rpm]			Corner power [kW]		
- max intermittent at 35° ¹⁾	3 900	3 400	- intermittent ¹⁾	570	730
- max continuous at 35°	3 400	3 000	- continuous	440	560
- max intermittent at 6.5°-20° ¹⁾	6 500	5 700	Mass moment of inertia	8.2	14.5
- max continuous at 6.5°-20°	5 700	5 000	(x10 ⁻³) [kg m ²]		
- min continuous	50	50	Weight [kg]	54	68

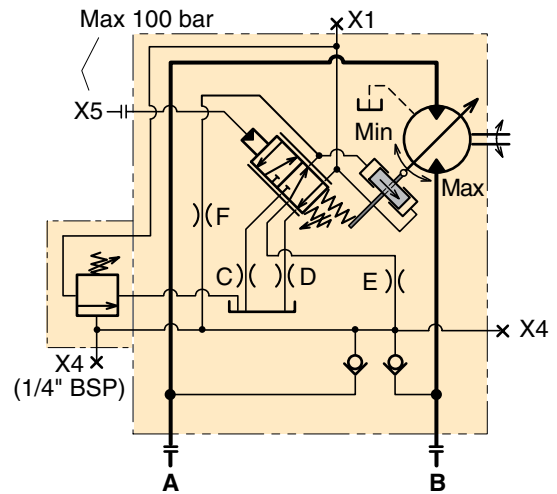
1) Max 6 seconds in any one minute.

EPC/HPC, EP/HP control with pressure cut off

- The pressure cut off overlays the EP/HP control.
- If the system pressure increase, due to the load or reduced motor displacement to the setting of the pressure cut off valve, the control increases displacement. When displacement increases, the available torque increases as well but the system pressure remains constant.
- Pressure cut off setting range is 100-400 bar.
- Threshold pressure is preset from factory to 10 bar but is adjustable between 5 and 25 bar.
- For EPC the threshold current of the 12 VDC solenoid is factory set at 400 mA; it is adjustable between 200 and 500 mA. The 24 VDC solenoid is factory set at 200 mA and is adjustable between 100 and 250 mA.



EPC schematic (control moving towards max displacement).



HPC schematic (shown: port X5 not pressurized; control moving towards max displacement).

Gauge/pilot ports (EPC control):

- X1 Setting piston pressure (decreasing displ.)
- X4 Servo supply pressure (before orifice)
- X4 Servo supply pressure (on EPC) BSP1/4" only

Port sizes:

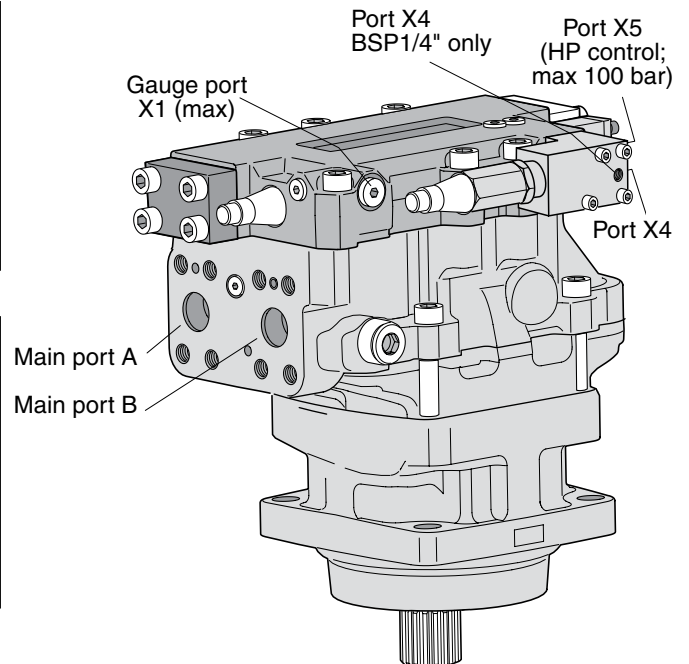
- M14x1.5 (ISO version)
- 9/16"-18 O-ring boss (SAE version).

Gauge/pilot ports (HPC control):

- X1 Setting piston pressure (decreasing displ.)
- X4 Servo supply pressure (before orifice)
- X4 Servo supply pressure (on HPC) BSP1/4" only
- X5 External pilot pressure (on HPC max 100 bar)

Port sizes:

- M14x1.5 (ISO version)
- 9/16"-18 O-ring boss (SAE version).



Port locations - V14-110 with EPC/HPC control.

Parker Worldwide

Europe, Middle East, Africa

AE – United Arab Emirates, Dubai

Tel: +971 4 8127100
parker.me@parker.com

AT – Austria, Wiener Neustadt
Tel: +43 (0)2622 23501-0
parker.austria@parker.com

AT – Eastern Europe, Wiener Neustadt
Tel: +43 (0)2622 23501 900
parker.easteurope@parker.com

AZ – Azerbaijan, Baku
Tel: +994 50 22 33 458
parker.azerbaijan@parker.com

BE/LU – Belgium, Nivelles
Tel: +32 (0)67 280 900
parker.belgium@parker.com

BG – Bulgaria, Sofia
Tel: +359 2 980 1344
parker.bulgaria@parker.com

BY – Belarus, Minsk
Tel: +375 17 209 9399
parker.belarus@parker.com

CH – Switzerland, Etoy
Tel: +41 (0)21 821 87 00
parker.switzerland@parker.com

CZ – Czech Republic, Klecany
Tel: +420 284 083 111
parker.czechrepublic@parker.com

DE – Germany, Kaarst
Tel: +49 (0)2131 4016 0
parker.germany@parker.com

DK – Denmark, Ballerup
Tel: +45 43 56 04 00
parker.denmark@parker.com

ES – Spain, Madrid
Tel: +34 902 330 001
parker.spain@parker.com

FI – Finland, Vantaa
Tel: +358 (0)20 753 2500
parker.finland@parker.com

FR – France, Contamine s/Arve
Tel: +33 (0)4 50 25 80 25
parker.france@parker.com

GR – Greece, Athens
Tel: +30 210 933 6450
parker.greece@parker.com

HU – Hungary, Budaörs
Tel: +36 23 885 470
parker.hungary@parker.com

IE – Ireland, Dublin
Tel: +353 (0)1 466 6370
parker.ireland@parker.com

IT – Italy, Corsico (MI)
Tel: +39 02 45 19 21
parker.italy@parker.com

KZ – Kazakhstan, Almaty
Tel: +7 7273 561 000
parker.easteurope@parker.com

NL – The Netherlands, Oldenzaal
Tel: +31 (0)541 585 000
parker.nl@parker.com

NO – Norway, Asker
Tel: +47 66 75 34 00
parker.norway@parker.com

PL – Poland, Warsaw
Tel: +48 (0)22 573 24 00
parker.poland@parker.com

PT – Portugal, Leca da Palmeira
Tel: +351 22 999 7360
parker.portugal@parker.com

RO – Romania, Bucharest
Tel: +40 21 252 1382
parker.romania@parker.com

RU – Russia, Moscow
Tel: +7 495 645-2156
parker.russia@parker.com

SE – Sweden, Spånga
Tel: +46 (0)8 59 79 50 00
parker.sweden@parker.com

SK – Slovakia, Banská Bystrica
Tel: +421 484 162 252
parker.slovakia@parker.com

SL – Slovenia, Novo Mesto
Tel: +386 7 337 6650
parker.slovenia@parker.com

TR – Turkey, Istanbul
Tel: +90 216 4997081
parker.turkey@parker.com

UA – Ukraine, Kiev
Tel: +380 44 494 2731
parker.ukraine@parker.com

UK – United Kingdom, Warwick
Tel: +44 (0)1926 317 878
parker.uk@parker.com

ZA – South Africa, Kempton Park
Tel: +27 (0)11 961 0700
parker.southafrica@parker.com

North America

CA – Canada, Milton, Ontario
Tel: +1 905 693 3000

US – USA, Cleveland (industrial)
Tel: +1 216 896 3000

US – USA, Elk Grove Village (mobile)
Tel: +1 847 258 6200

Asia Pacific

AU – Australia, Castle Hill
Tel: +61 (0)2-9634 7777

CN – China, Shanghai
Tel: +86 21 2899 5000

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Tel: +852 2428 8008

ID – Indonesia, Tangerang
Tel: +62 21 7588 1906

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Tel: +91 22 6513 7081-85

JP – Japan, Fujisawa
Tel: +81 (0)4 6635 3050

KR – South Korea, Seoul
Tel: +82 2 559 0400

MY – Malaysia, Shah Alam
Tel: +60 3 7849 0800

NZ – New Zealand, Mt Wellington
Tel: +64 9 574 1744

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Tel: +65 6887 6300

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Tel: +662 717 8140

TW – Taiwan, New Taipei City
Tel: +886 2 2298 8987

VN – Vietnam, Ho Chi Minh City
Tel: +84 8 3999 1600

South America

AR – Argentina, Buenos Aires
Tel: +54 3327 44 4129

BR – Brazil, Cachoeirinha RS
Tel: +55 51 3470 9144

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Tel: +56 2 623 1216

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EMEA Product Information Centre

Free phone: 00 800 27 27 5374

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