



685 Hydraulic Grip Supplies & Intensifiers

Precision hydraulic grip control for a broad range of materials testing

VERSATILE

- » Supports a wide range of materials testing
- » Can be used with grips operating between -40° and +177°C (-40° and +350°F)
- » Accommodates a wide range of electrical connections
- » Suitable for use with hydraulic grips on non-hydraulic load frames

UNIFORM CLAMPING FORCES

- » Clamping force does not change with temperature
- » Continuous positive pressure design provides high pressure stability over entire operating range

INTUITIVE, EASY-TO-USE CONTROLS

- » Directional control valves for upper and lower grips
- » Pressure control valves for upper and lower grips
- » Rate control valve

EASY TO MAINTAIN & SERVICE

SELF-CONTAINED & PORTABLE

High-performance MTS Model 685 hydraulic grip supplies and intensifiers are engineered to facilitate streamlined test setup and enable tight control of highly uniform and consistent clamping forces. Designed to support a wide range of test applications on a variety of materials specimens, the easy to operate and maintain Model 685 product line features two standalone grip supplies and one grip intensifier.

Model 685.10 and Model 685.22 Standalone Hydraulic Grip Supplies

The 685.10 and 685.22 units feature a self-contained hydraulic pump, a 0.75 kW (1 hp) electric motor, a 11.31 (3 gal) reservoir, a 10-micron absolute return line filter, and hoses for connection to grips. These units are furnished with individual directional control valves for upper and lower grips. The grip supplies use a special hydraulic fluid which allows the grips to be used in

environmental chambers at elevated temperatures. They are designed to run continuously, which results in good pressure stability and easy adjustment of the output pressure. Grip closure rate is also adjustable. Since the grip supplies are self-contained systems, they allow the use of hydraulic grips on non-hydraulic test systems.

Model 685.60 Hydraulic Grip Intensifier

The 685.60 Hydraulic Grip Intensifier, which utilizes an innovative fluid-to-fluid intensification system, is used with grips that require a pressure higher than the normal system hydraulic pressure. Two versions are available with factory adjusted output pressures of 45 MPa (6,500 psi) and 69 MPa (10,000 psi). The output pressure is adjustable from 10 MPa (1,500 psi) up to the grip supply output rating. To minimize the set-up time of larger grips, a high volume upgrade kit is available.

Model 685 Specifications

Model Number	Minimum Pressure	Maximum Pressure	Pressure** Stability	Temperature Range at Grip	Electrical Power Requirements	Weight	Part Number
685.10E-05	10 MPa (1,500 psi)	70 MPa (10,000 psi)	± 100 psi	-40 to +177° C (-40 to +350° F)	115 V 60 Hz	76 kg (170 lb)	057-509-601
685.10E-06	10 MPa (1,500 psi)	70 MPa (10,000 psi)	± 100 psi	-40 to +177° C (-40 to +350° F)	100-115 V 50 Hz	76 kg (170 lb)	057-509-602
685.10E-07	10 MPa (1,500 psi)	70 MPa (10,000 psi)	± 100 psi	-40 to +177° C (-40 to +350° F)	208-230 V 60 Hz	76 kg (170 lb)	057-509-603
685.10E-08	10 MPa (1,500 psi)	70 MPa (10,000 psi)	± 100 psi	-40 to +177° C (-40 to +350° F)	200-240 V 50 Hz	76 kg (170 lb)	057-509-604
685.22D-05	0.7 MPa (100 psi)	20.7 MPa (3,000 psi)	± 100 psi	-40 to +177° C (-40 to +350° F)	115 V 60 Hz	76 kg (170 lb)	057-598-001
685.22D-06	0.7 MPa (100 psi)	21 MPa (3,000 psi)	± 100 psi	-40 to +177° C (-40 to +350° F)	100-115 V 50 Hz	76 kg (170 lb)	057-598-002
685.22D-07	0.7 MPa (100 psi)	21 MPa (3,000 psi)	± 100 psi	-40 to +177° C (-40 to +350° F)	208-230 V 60 Hz	76 kg (170 lb)	057-598-003
685.22D-08	0.7 MPa (100 psi)	21 MPa (3,000 psi)	± 100 psi	-40 to +177° C (-40 to +350° F)	200-240 V 50 Hz	76 kg (170 lb)	057-598-004
685.60C-02***	10 MPa (1,500 psi)	45 MPa (6,500 psi)	± 100 psi	-18 to +66° C (0 to +150° F)		39 kg (87 lb)	057-597-901
685.60C-03***	10 MPa (1,500 psi)	70 MPa (10,000 psi)	± 100 psi	-18 to +66° C (0 to +150° F)		39 kg (87 lb)	057-597-902

** Continuous pump operation.

*** Optional kit available to minimize set-up time of larger grips.

FILTRATION

- » 10 micron

HYDRAULIC FLUID

- » Mobile 525 SHC

MAXIMUM AMBIENT TEMPERATURE

- » 32° C (90° F)

DIMENSIONS (SEE PHOTO)

- » Depth: 43.18 cm (17 in)
- » Width: 44.45 cm (17.5 in)
- » Height: 91.44 cm (36 in)



Intuitive, Easy-to-use Controls

Model 685 hydraulic grip supplies and intensifiers employ an intuitive, easy-to-use control interface that features directional and pressure control valves for each grip, as well as a separate rate control valve.

- » Directional Controls (upper grip end clamp/release, lower grip end clamp/release)—features simple, three-position design with center-detent for unparallelled gripping control
- » Pressure Controls (upper and lower grip clamping force adjustment)—features a broad adjustment range to accommodate a wide range of materials specimens
- » Rate Control (clamping rate adjustment)—for tight management of grip engagement speed during setup



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