

Automatic compression and compression/flexural testers

STANDARD

▶ EN 196-1 ▶ ASTM C78 ▶ ASTM C109

Model synopsis

The testing machines and frames we produce, with capacities of 15, 300, 500 and 600 kN, provide the highest possible degree of flexibility according to the Standard in use, the material to be tested, the expected strength value, the type of test (Compression or Compression/Flexural), the configuration of the testing system (when a frame only is selected for connection to a separate stand-alone Power and Control Console e.g. PILOT Pro/ AUTOMAX Pro Smart-Line and AUTOMAX Multitest).

COMPACT LINE, AUTOMATIC PILOT PRO MULTIPURPOSE TESTERS, 500/600 KN CAPACITY

- Load measurement by high precision load cell (500 kN versions) or pressure transducer (600 kN version)
- Double testing chamber versions 15/500 kN and 15/600 kN also available
- Flexible and versatile models suitable for testing cements, mortars, resins, refractory materials, lightweight concrete, soil cement specimens etc.



See page 294

FOUR-COLUMN CLASSIC, PILOT PRO AND AUTOMAX PRO AUTOMATIC TESTERS, 300 KN CAPACITY

- Load measurement by high precision load cells
- PILOT Pro and AUTOMAX Pro power control systems versions with related various benefits. See page 170 and page 172.
- Double testing chamber versions 15/300 kN
- EN versions with inbuilt flexure and compression jigs also available
- Ideal for central laboratories to test cement and mortar



See page 296

MULTIPURPOSE FRAMES, 500/600 KN CAPACITY

- Load measurement by high precision load cell (500 kN versions) or pressure transducer (600 kN version)
- Double testing chamber versions 15/500 kN and 15/600 kN also available
- Flexible and versatile models suitable for testing cements, mortars, resins, refractory materials, lightweight concrete, soil cement specimens etc.



See page 298

FOUR-COLUMN CLASSIC TESTING FRAMES 300 KN CAPACITY

- Frames only to be controlled by the PILOT Pro or AUTOMAX Pro Power Control System of automatic testers, or by SMART Line and AUTOMAX Multitest control consoles.
- Double testing chamber versions 15/300 kN
- Fitted with high precision load cells for load measurements



See page 299

MULTIPURPOSE Compression/Flexure testers, 600, 500, 600/15, 500/15 kN capacity

PILOT PRO

65

STANDARD

- ▶ EN 196-1 ▶ EN 13286-41 ▶ EN 933-5
- ▶ ASTM C109 ▶ ASTM C348

BENEFITS

- » A multipurpose machine ideal for testing Cement, Mortars, Resins, Refractory, Lightweight concrete, Soil-cement specimens etc.
- » Large testing space
- » Ideal for splitting tests and flexural tests on concrete specimens
- » High capacity, ideal for high strength mortars, resins, etc.
- » High rigidity solid one piece steel frame
- » Ergonomic design
- » Best value for money
- » High accuracy 500 kN model with Pilot Pro and Automax Pro PCS, suitable for both flexural and compression tests on cement, fitted with high precision load cell, Class 1 accuracy range from 0.5 to 500 kN



50-C92P02 with base 50-A19/B

50-C92P12 with base 50-A19/B

50-C93P02 with base 50-A19/B

Ordering information

Single chamber models

50-C92P02

PILOT Pro Compact-Line 600 kN capacity, automatic compression tester, load measurement with pressure transducer. Compression platens diameter 165mm. 230V, 50-60 Hz, 1 ph

50-C92P12

PILOT Pro Compact-Line 500 kN capacity, automatic compression tester, load measurement with load cell. Compression platens diameter 165mm. 230V, 50-60 Hz, 1 ph

50-C93P02

PILOT Pro Compact-Line 600 kN capacity, automatic compression tester, load measurement with pressure transducer. Compression platens diameter 216mm. 230V, 50-60 Hz, 1 ph

Specifications

Frame

Rigid welded steel construction. Spherical seat allows free alignment at the initial contact with the specimen.

Compression Platens

See physical specifications table.

PILOT Pro Power and Control System

Full specifications on page 170

Load measurement

By high precision load cells and/or pressure transducer. See table

Safety Features

Maximum pressure valve to avoid machine overloading, piston travel limit switch, emergency stop button, front door and rear flexible fragment guard.

Machine accessories

- Distance pieces to reduce the vertical daylight. See page 194
- Frame pedestal. See code 50-A19/B on page 301
- DATAMANAGER PC software. See page 192

50-C99/P Rigid safety guard for 15kN chamber

Test accessories

- Splitting tensile test device. See page 200
- Compression device on cement samples. See page 300
- Flexure device on cement samples. See page 300
- Flexural test device on concrete beams. See page 201



Rigid safety guard for 15kN chamber 50-C99/P

Upgrading options

- Additional testing frame/s connection. See page 196
- Printer installation. See page 198
- Special calibration procedure. See physical specifications table.
- Certified platen hardness. See codes 50-C0050/HRD2 and 65-L0050/HRD (just for Double Stations models) on page 199

Fragment guard lock switch

50-C50/P1 Fragment guard lock switch

Other voltages

For 110V, 60 Hz versions change last code number from 2 to 4. Example: 50-C92P04



50-C92P22 with base 550-A19/B



50-C92P42 with base 50-A19/B



50-C93P22 with base 50-A19/B

Ordering information

Double chambers models

50-C92P22

15/600 kN capacity, PILOT Pro Automatic COMPACT-Line Double Station compression tester, load measurement of the 15 kN station with high precision load cell and 600 kN station with pressure transducer. Compression platens diameter 165mm. 230 V,50-60 Hz, 1 ph

50-C92P42

15/500 kN capacity, PILOT Pro Automatic COMPACT-Line Double Station compression tester, load measurement with load cells. Compression platens diameter 165mm. 230 V,50-60 Hz, 1 ph

50-C93P22

15/600 kN capacity, PILOT Pro Automatic COMPACT-Line Double Station compression tester, load measurement of the 15 kN station with high precision load cell and 600 kN station with pressure transducer. Compression platens diameter 216 mm on the compression station and diameter 165 mm on the flexure station. 230 V,50-60 Hz, 1 ph

Physical specifications table

Model 50-	C92P02x	C93P0x	C92P1x	C92P2x	C93P2x	C92P4x
Capacity, kN	600	600	500	15/600	15/600	15/500
Load measurement	Pressure transducer	Pressure transducer	Load cell	Load cell/ P. transducer	Load cell/ P.transducer	Load cell/ Load cell
Max. Vertical daylight, mm	355	325	255	205/355	205/325	205/255
Horizontal daylight, mm	265	265	265	-/265	-/265	-/265
Platen dimension, mm	Dia. 165	Dia. 216	Dia. 165	Dia. 165	Dia. 165/216	Dia. 165
Surface hardness	55 HRC	55 HRC	55 HRC	55 HRC	55 HRC	55 HRC
Flatness tolerance, mm	0.03	0.03	0.03	0.03	0.03	0.03
Ram travel, mm	50	50	50	30/50	30/50	30/50
Class 1 range	60-600 kN	60-600 kN	50-500 kN	1.5-15 kN 60-600 kN	1.5-15 kN 60-600 kN	1.5-15 kN 50-500 kN
With 50- C0050/CAL	6-600 kN	6-600 kN	5-500 kN	6-600 kN	6-600 kN	5-500 kN
With 50- C0050/CAL5	-	-	-	0.5-15 kN	0.5-15 kN	0.5-15 kN
With 50- C0050/1CAL	-	-	0.5-500 kN	-	-	-
Dimensions l x d x h, mm	850x400x1100 (base excl.)			1100x400x1100 (base excl.)		
Weight approx., Kg	270	300	280	340	370	350

Four Column Classic Automatic PILOT Pro and Automax Pro Compression/Flexural testers, 300 and 15/300 kN capacity

STANDARD

▶ EN 196-1 ▶ EN 12190 ▶ EN 12808-3 ▶ EN 13892-2 ▶ ASTM C109 ▶ ASTM C348

65



65-L28P12



65-L27P12

PILOT PRO

Sophisticated and flexible automatic compression testers

Ordering informations

65-L18P12

300 kN capacity, PILOT Pro automatic compression tester, round platens diameter 165 mm. 230 V, 50-60 Hz, 1 ph.

65-L27P12

15/300 kN capacity double chamber PILOT Pro automatic compression tester, inbuilt flexural jig and compression platens for 40x40x160 mm prisms configured to EN 196-1. 230 V, 50-60 Hz, 1 ph.

65-L28P12

15/300 kN capacity double chamber PILOT Pro automatic compression tester, round platens diameter 165 mm. 230 V, 50-60 Hz, 1 ph.

Specifications

Frame

Very rigid four columns frames, fitted inbuilt flexural and compression jig conforming to EN (models 65-L27xxx), or round platens suitable for receiving all compression and flexural accessories (models 65-L28xxx, 65-L18xxx).

Compression Platens

See physical specifications table.

PILOT Pro Power and Control System

Full specifications on page 170

AUTOMAX Pro Power and Control System

Full specifications on page 172

Load measurement

By high precision load cells.

Safety Features

Maximum pressure valve to avoid machine overloading, piston travel limit switch, emergency stop button.

Machine accessories

- Distance pieces to reduce the vertical daylight. See page 194
- DATAMANAGER PC software. See page 192

Fragment guards

- 65-L1800/P** Transparent rigid fragment guard for 65-L18xx testers
- 65-L2701/P** Same as above for 65-L27x1x testers
- 65-L2800/P** Same as above for 65-L28xxx testers
- 65-L3800/P** Same as above for 65-L38xxx testers

Test accessories

- Compression device on cement samples. See page 300
- Flexure device on cement samples. See page 300

Upgrading options

- Printer installation. See page 198
- Special calibration procedure. See physical specifications table.
- Certified platen hardness. See codes 65-L0050/HRD and 50-C0050/HRD5 (just for models 65-L27xxx) on page 199

Fragment guard lock switch

50-L0050/P Fragment guard lock switch

Other voltages

For 110V, 60 Hz versions change last code number from 2 to 4. Example: 65-L28F14.



65-L28F12

AUTOMAX PRO

Advanced automatic versatile testing system

Ordering informations

65-L18F12
300 kN capacity, AUTOMAX Pro automatic compression tester, round platens diameter 165 mm. 230 V, 50-60 Hz, 1 ph.



Detail of the high stiffness 4 column structure and high precision load cell which fits all single and double station frames.

65-L38D12
300 kN capacity, AUTOMAX Pro automatic compression tester, round platens diameter 165 mm version with increased testing space (vertical: 350 mm, horizontal: 260 mm). 230 V, 50-60 Hz, 1 ph.

65-L28F12
15/300 kN capacity double chamber AUTOMAX Pro automatic compression tester, round platens diameter 165 mm. 230 V, 50-60 Hz, 1 ph.

65-L27F12
15/300 kN capacity double chamber AUTOMAX Pro automatic compression tester, inbuilt flexural jig and compression platens for 40x40x160 mm prisms conforming to EN 196-1. 230 V, 50-60 Hz, 1 ph.

Physical specifications table

Model 65-	L18P12 L18F12	L27P12 L27F12	L28P12 L28F12	L38D12
Max load kN	300	15/300	15/300	300
Ram travel mm	50	30/50	30/50	50
Vertical Span, mm	200	-/50	200/200	350
Horizontal Span, mm	220	-/220	-/220	260
Platen dim., mm	Dia. 165	40x40	Dia. 165	Dia. 165
Flexural jig 40x40x160 mm	-	Included	-	-
Class 1	30-300 kN	1.5-15 kN 30-300 kN	1.5-15 kN 30-300 kN	30-300 Kn
Class 1 with 50-C0050/CAL5	-	0.5-15 kN	0.5-15 kN	-
Class 1 with 50-C0050/CAL	3-300 kN	3-300 kN	3-300 kN	3-300 kN
Class 1 with 50-C0050/1CAL	0.5-300 kN	-	-	0.5-300 kN
Overall dim. L x d x h, mm	862x344x964	922x337x964	890x337x964	830x350x1120
Weight approx., kg	195	265	270	240

MULTIPURPOSE Compression/Flexure frames, 600, 500, 600/15, 500/15 kN capacity

STANDARD

▶ EN 196-1 ▶ EN 13286-41 ▶ EN 933-5 ▶ ASTM C109 ▶ ASTM C348

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50-C92Z00 with base 50-A19/B



50-C92Z10 with base 50-A19/B



50-C92Z20 with base 50-A19/B

Ordering information

Single chamber models

50-C92Z00

600 kN capacity frame, load measurement by pressure transducer. Platens diameter 165 mm.

50-C92Z10

500 kN capacity frame, load measurement by load cell. Platens diameter 165 mm.

50-C93Z00

600 kN capacity frame, load measurement by pressure transducer. Platens diameter 216 mm.

Double chambers models

50-C92Z20

15/600 kN capacity double chamber frame, load measurement of the 15 kN station by load cell and of 600 kN station by pressure transducer. Platens diameter 165 mm.

50-C92Z40

15/500 kN capacity double chamber frame, load measurement by load cells. Platens diameter 165 mm.

50-C93Z20

15/600 kN capacity double chamber frame, load measurement of the 15 kN station with load cell and 600 kN station with pressure transducer. Platens diameter 216 mm on the compression station and diameter 165 mm on the flexure station.

Physical specifications table

Model 50-	C92Z00	C93Z00	C92Z10	C92Z20	C93Z20	C92Z40
Capacity, kN	600	600	500	15/600	15/600	15/500
Load measurement	Pressure transducer	Pressure transducer	Load cell	Load cell/ P. transducer	Load cell/ P.transducer	Load cell/ Load cell
Max vertical daylight, mm	355	325	255	205/355	205/325	205/255
Horizontal daylight, mm	265	265	265	-/265	-/265	-/265
Platen dimension, mm	Dia. 165	Dia. 216	Dia. 165	Dia. 165	Dia. 216	Dia. 165
Surface hardness	55 HRC	55 HRC	55 HRC	55 HRC	55 HRC	55 HRC
Flatness tolerance, mm	0.03	0.03	0.03	0.03	0.03	0.03
Ram travel, mm	50	50	50	30/50	30/50	30/50
Class 1 range	60-600 kN	60-600 kN	50-500 kN	1.5-15 kN 60-600 kN	1.5-15 kN 60-600 kN	1.5-15 kN 50-500 kN
With 50- C0050/CAL	6-600 kN	6-600 kN	5-500 kN	6-600 kN	6-600 kN	5-500 kN
With 50- C0050/CAL5	-	-	-	0.5-15 kN	0.5-15 kN	0.5-15 kN
With 50- C0050/1CAL*	-	-	0.5-500 kN	-	-	-
Dimensions l x d x h, mm	445 x 400 x 1100 (base excl.)			700 X 400 X 1100 (base excl.)		
Weight approx., Kg	225	255	235	290	320	300

*Only when connected to Pilot Pro and Automax Pro PCS

Specifications

Frame

Rigid welded steel construction. Spherical seat allows free alignment at the initial contact with the specimen.

Compression Platens

See physical specifications table.

Safety Features

Maximum pressure valve to avoid machine overloading, piston travel limit switch, emergency stop button, front door and rear flexible fragment guard.

Machine accessories

- Distance pieces to reduce the vertical daylight. See page 194
- Frame pedestal. See code 50-A19/B on page 301

50-C99/P Rigid safety guard for 15kN chamber

Test accessories

- Splitting tensile test device. See page 200
- Compression device on cement samples. See page 300
- Flexure device on cement samples. See page 300
- Flexural test device on concrete beams. See page 201

Upgrading options

- Special calibration procedure. See physical specifications table and page 295
- Certified platen hardness. See codes 50-C0050/HRD2 and 65-L0050/HRD (just for Double Stations models) on page 199

Fragment guard lock switch

50-C50/P1 Fragment guard lock switch

Pressure regulator

The 15 kN load piston of the Double station models, when connected to PILOT Pro and AUTOMAX Pro PCS, require the 65-L1400/X5 pressure regulator (not necessary when connected to Automax Multitest).

65-L1400/X5

Hydraulic pressure regulator for frames 50-C92Z20, 50-C93Z20 and 50-C92Z40 connected to PILOT Pro and AUTOMAX Pro PCS.

Four Column Classic cement frames, 300 and 15/300 kN capacity

STANDARD

▸ EN 196-1 ▸ EN 12190 ▸ EN 12808-3 ▸ EN 13892-2 ▸ ASTM C109 ▸ ASTM C348



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Ordering information

Single chambers models

65-L18Z10

300 kN capacity compression testing frame, fitted with round platens 165 mm diameter and precision load cell for load measurements.

65-L38Z10

300 kN capacity compression testing frame, fitted with round platens 165 mm diameter and precision load cell for load measurements. Version with increased testing space (vertical: 350 mm, horizontal: 260mm)

65-L58Z10

15 kN capacity flexural/compression testing frame, fitted with round platens 165 mm diameter and precision load cell for load measurements

Double chambers model

65-L28Z10

15/300 kN capacity double chamber testing frame, fitted with round platens 165 mm diameter and precision load cells for load measurements.

Physical specifications table

Model 50-	L18Z10	L38Z10	L58Z10	L28Z10
Capacity, kN	300	300	15	15/300
Load measurement	Load cell	Load cell	Load cell	Load cells
Max vertical daylight, mm	205	350	205	205
Horizontal daylight, mm	220	350	220	220
Platen dimension, mm	Dia. 165	Dia. 165	Dia. 165	Dia. 165
Surface hardness	55 HRC	55 HRC	55 HRC	55 HRC
Flatness tolerance, mm	0,01			
Ram travel, mm	50	50	30	30/50
Class 1 range	30-300 kN	30-300 kN	1.5-15 kN	1.5-15 kN 30-300 kN
With 50- C0050/CAL	3-300 kN	3-300 kN	-	3-300 kN
With 50- C0050/CAL5	-	-	0.5-15 kN	-
With 50- C0050/1CAL*	0.5-300 kN	0.5-300 kN	-	-
Dimensions l x d x h, mm	500 x 405 x 1566			500 x 405 x 1720
Weight approx., Kg	160	170	150	240

*Only when connected to Pilot Pro and Automax Pro PCS

Specifications

Frame

Four-column robust frame with single or twin test chamber. All frames includes pedestal and connection kit for control console.

Compression Platens

See physical specifications table.

Safety Features

Maximum pressure valve to avoid machine overloading, piston travel limit switch, emergency stop button.

Machine accessories

- Distance pieces to reduce the vertical daylight. See page 194

Fragment guards

65-L1800/P Transparent rigid fragment guard for 65-L18xxx testers

65-L2800/P Same as above for 65-L28xxx testers

65-L3800/P Same as above for 65-L38xxx testers

Test accessories

- Compression device on cement samples. See page 300

- Flexure device on cement samples. See page 300

Upgrading options

- Special calibration procedure. See physical specifications table and page 295

- Certified platen hardness. See codes 65-L0050/HRD on page 199

Fragment guard lock switch

50-L0050/P Fragment guard lock switch

Pressure regulator

The 15 kN load piston of the frames 65-L28Z10 and 65-L58Z10, when connected to PILOT Pro and AUTOMAX Pro PCS, require the 65-L1400/X5 pressure regulator (not necessary when connected to Automax Multitest).

65-L1400/X5

Hydraulic pressure regulator for frames 65-L28Z10 and 65-L58Z10 connected to PILOT Pro and AUTOMAX Pro PCS.

Accessories for Compression and flexural testers

STANDARD

▶ EN 196-1 ▶ ASTM C348

FLEXURE DEVICES FOR MORTAR PRISMS

We produce two versions of this apparatus: the 65-L0019/B conforming to EN and the 65-L0019/C which conforms to ASTM. Both models feature a robust frame fitted with one upper and two lower tilting bearers. The distance between the two lower bearers is 100 mm in the EN and 119 mm in the ASTM version.

Total height: 188 mm
Weight: 8 kg (approx.)

Ordering information

65-L0019/B

EN Flexure device for 40 x 40 x 160 mm prisms.

65-L0019/B1

Marking template for centering the mortar prism on the 65-L0019/B EN device.

65-L0019/C

ASTM Flexure device for 40 x 40 x 160 mm prisms.



65-L0019/B, 65-L0019/C

STANDARD

▶ EN 196-1 ▶ EN 1015-11
▶ ASTM C109

COMPRESSION DEVICES FOR MORTAR SPECIMENS

Two versions of this device are available: 50-C9030/H conforming to EN and 50-C9032/H which conforms to ASTM. Both models feature a robust frame with an upper platen with a spring-mounted spherical seat that moves vertically. The 50-C9030/H model is fitted with a platen for portions of 40x40x160 rectangular cement prisms, while the 50-C9032/H model is fitted with round platens 75 mm diameter.

Total height: 222 mm
Weight: 8 kg (approx.)

See also other models on page 201

Ordering information

50-C9030/H

EN Compression device to test portions of 40 x 40 x 160 mm prisms broken in flexure.

50-C9032/H

ASTM Compression device to test 50 mm (2") cubes.
Vertical clearance: 53 mm



50-C9030/H



50-C9032/H

STANDARD

▶ EN 1338 ▶ EN 12390-6
▶ ASTM C496

SPLITTING TENSILE TEST DEVICES

This device is a two-column steel frame with a self-centering specimen holder at the base and an upper load beam suspended with springs for easy adjustment of the specimen. It can be easily placed, by removing the lower platen, in the compression testers 50-C92xxx and frame 65-L38Z10. See additional information on page 200

Ordering information

50-C9000/C

Splitting tensile test device for cylinders up to 160mm diameter x 320mm height. Conforms to EN 12390-6 and ASTM C496.

50-C9070/C

Splitting tensile test device for concrete block pavers and concrete cubes. Conforms to EN 1338 and EN 12390-6.

Accessories

50-C9002

Hardboard packing strips 4 x 15 x 345 mm, to EN 1338 and 12390-6. Pack of 50.

50-C9002/A

Plywood packing strips 3 x 25 x 345 mm, to ASTM C496. Pack of 50.



50-C9070/C

STANDARD

▶ EN 12390-5 ▶ ASTM C78
▶ ASTM C293 ▶ AASHTO T97

FLEXURAL TEST DEVICE FOR CONCRETE BEAMS

This device has a double upper bearer for two-point and centre-point tests. It can be easily placed, by removing the lower platen, in the compression testers 50-C92xxx and frame 65-L38Z10. See additional information on page 201

50-C9010/C

Flexural device for concrete beams 100 x 100 x 400/500 mm and 150 x 150 x 600/700 mm.



50-C9010/C fitted in the compression machine

Flexural strength of 40 x 40 x 160 mm mortar prisms

FRAME PEDESTAL

50-A19/B

Machine/Frame pedestal for series 50-C92xxx.
Dimensions: 660x370x400 mm
Weight: 26 kg.



50-A19/B

DISTANCE PIECES TO ADJUST VERTICAL CLEARANCE

Made of steel, these pieces are used to reduce the vertical clearance of the compression machine to a height that is appropriate for the size of the specimen, considering that, in general, the maximum piston travel is 50mm (or 30 mm for 15kN chamber).

Ordering information

65-L1000/20

Distance piece, 165 mm diameter x 20 mm thick. Weight 3.5 kg approx.

65-L1000/30

Distance piece 165 mm diameter x 30 mm thick. Weight 5.5 kg approx.

65-L1000/40

Distance piece 165 mm diameter x 40 mm thick. Weight 7 kg approx.

65-L1000/68

Distance piece 165 mm diameter x 68 mm thick.
Weight: 9 kg approx.

See also on page 194



65-L1000/30

AUTOMATIC FLEXURE/TENSION MACHINE

This machine is used for the flexural strength determination of cement specimens and tensile tests on cement briquettes. It consists of a beam loading system with a sliding weight which is driven by an electric motor, providing a constant increase in load throughout the test. The machine is designed to accept either flexural or tensile attachments, which have to be ordered separately - see Accessories.

Scale ranges:

- 1000 N in 10 N subdivisions
- 5000 N in 50 N subdivisions
- Wattage: 40 W
- Dimensions: 510 x 1050 x 720 mm
- Weight: 52 kg (approx.)



65-L0015/A with 65-L0015/5

Ordering information

65-L0015/A

Automatic flexure/tension machine, 5 kN capacity. 230 V, 50 Hz, 1 ph.

65-L0015/AZ

As above but 110 V, 60 Hz, 1 ph.

65-L0015/AY

As above but 220 V, 60 Hz, 1 ph.

Accessories

65-L0015/1

Flexure testing attachment, design conforming to NF, DIN, UNI, EN standards.

65-L0015/4

Tensile testing attachment for cement briquette specimens.

65-L0015/5

Flexure testing attachment, design conforming to ASTM C348.

65-L0016

Briquette mould



65-L0016