



EPS 815 – The **versatile** and **high performance** component test bench



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Bosch-Diagnostics

ESI[tronic]
Software

Prüftechnik

Service
Training

Technische
Hotline

Fit for the **future** – diesel test equipment for passenger cars and commercial vehicles

Special accessory kits



CP1



CP2



CP3



CRIN



CRI 846

Retrofit kits



VPM 844



CRS 845

Basic test bench



EPS 815 with KMA

Overview of advantages



Fig. shows EPS 815 with KMA 802 and test pump

EPS 815 – Universal component test bench with 15 kW power output

The forward-looking design of the test bench allows the diesel specialist to check highperformance pumps of the newest generation and also common rail injectors from the passenger and commercial vehicle sector. This is made possible with

- MGT/KMA
- VPM 844/CRS 845/CRI 846
- CP 1/2/3 and CRIN

that mark the extendibility of the EPS 815.

The specifications of the automobile manufacturer and the legal emissions regulations are adhered to. Even testing of future diesel injection components is assured thanks to continual further development of the optional accessories.

- **Environmentally compatible and user-friendly** operation is achieved by a reduction in oil vaporisation and mist
- **Outstanding true running properties and speed stability** assure high accuracy in repeated tests, especially during injection:
 - Direct drive
 - High flywheel mass
 - Rotational-speed control with an extremely short speed control time
 - Position control
- **Maintenance-free drive** with high efficiency
- **The weight counterbalance** provided for height adjustment of the test instrument simplifies work considerably
- **Longer service life** as bending of the test lines is rarely necessary (the test instrument can be adjusted at all three levels)

The **electronic** fuel delivery measuring system KMA



KMA – continuous fuel delivery analysis computerised measuring system for conventional and new diesel injection systems

The electronic fuel delivery measuring system is compulsory for modern diesel injection system testing. It guarantees a high level of reproductivity of the measured values.

User-friendly operation

Short setting times are possible thanks to the bar graph display of the measurements on the monitor with colour coding to show when tolerances are exceeded. All important settings can be preselected and test steps defined by means of the software. The specifications can be imported directly from the CD test data and the diesel ESI[tronic]-W in the EPS 945 operating system software. In this case, an automated test procedure is available to the user.

The Measuring Glass Technology MGT



MGT – Measuring system with measuring glass technology for pumps up to 12 cylinders

The mechanical MGT 824 fuel delivery measuring device can also be equipped with a further 2 x 12 measuring glasses (44 ml and 260 ml) to speed up testing. By swiveling and moving the measuring glass holder laterally, the test bench can be adapted to suit all test requirements.

Moreover, it is also possible to exchange the measuring glass holder for 12 measuring glasses with 155 ml and 600 ml to enable larger fuel injection pumps to be tested (SA). After each test procedure all readings from the measuring glasses must be taken individually and entered into the respective test report.



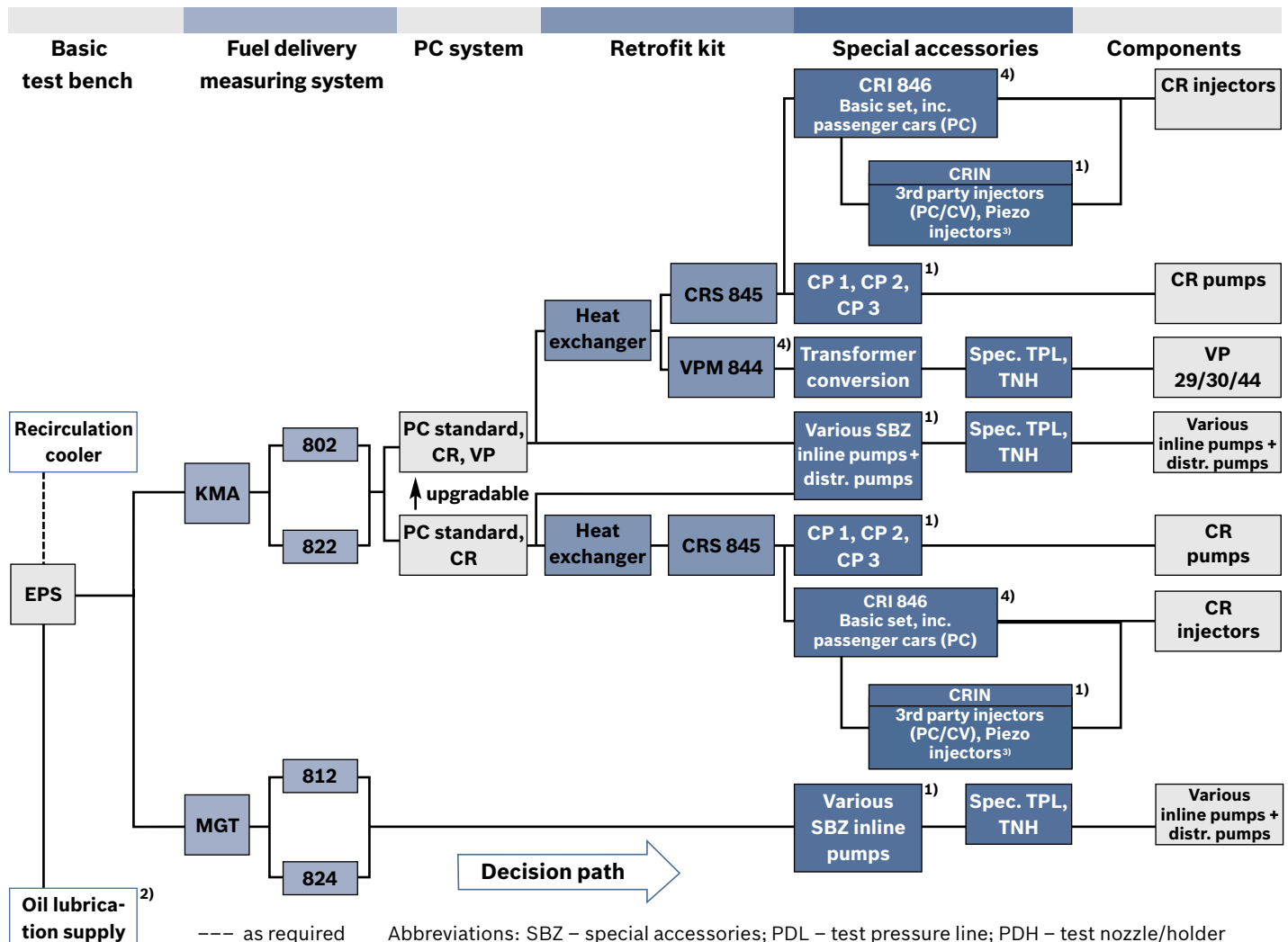
Product overview

Decision matrix

Components	EPS 815	Components	EPS 815	Components	EPS 815
Inline pumps*		Distributor pumps*		Common Rail*	
A pump	x	VE pump	x	CP1 pump	x
M pump	x	VA pump	x	CP2 pump	x
MW pump	x	VM pump	x	CP3.2 pump	x
P pump S 1...8000	x	VP 29 pump	x	CP3.3 pump	x
P pump S 8500	x	VP 30 pump	x	CP3.4 pump	x
R pump	x	VP 44 pump (except PSG 16)	x	CR injector, PC/CV	x
H pump S 1	x			CR injector, 3rd party PC**	x
H pump S 1000	x			CR injector, 3rd party CV**	x
ZWM pump	(x) (up to 6 cyl.)			CR injector, Piezo**	x

Note: pump-specific accessories required!
 * Test of individual pump versions excluded
 ** In preparation

x = suitable
 (x) = limited suitability

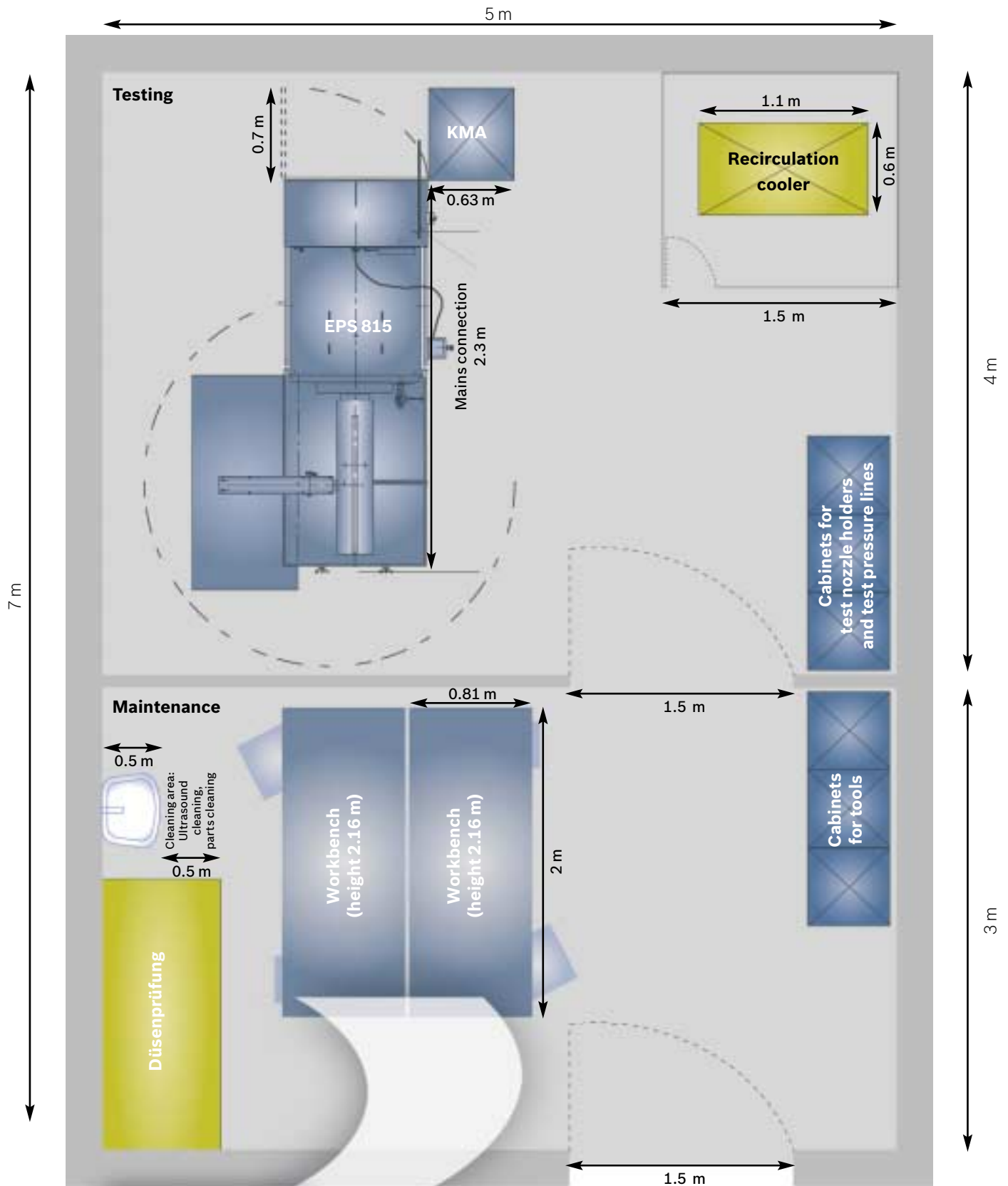


- 1) Selection of special accessories possible 2) Necessary for CP2/CP3 3) In preparation
 4) Transformer conversion kit required by production date 07/05 (estimated)

Special accessories

Description	Part number	
KMA 802	Electronic fuel delivery measuring system inc. display unit 15" TFT monitor for assembly on the test bench	0 683 802 001
KMA 822	Electronic delivery measurement system inc. display unit 15" TFT monitor for assembly on the trolley (in delivery specification)	0 683 822 001
VPM 844	Retrofit kit VP for testing and programming solenoid valve controlled Bosch distributor-type pumps VP 29/30/44. EPS 815, KMA and heat exchanger necessary. For further information on the retrofit kits, please refer to the special brochures.	1 687 001 844
CRS 845	Retrofit kit CR as a basis for testing CR components EPS 815, KMA and heat exchanger necessary. For further information on the retrofit kits, please refer to the special brochures.	1 687 001 845
CP1	Special accessory set CP1 (clamping sets for CP1 pumps)	1 687 010 133
CP2	Special accessory set CP2 (clamping sets for CP2 pumps)	1 687 010 134
CP3	Special accessory set CP3 (clamping sets for CP3 pumps)	1 687 010 135
CRI 846	Retrofit kit for common rail injectors inc. special accessory set for Bosch 1st + 2nd generation common rail injectors for passenger cars Retrofit kit CRS 845 is prerequisite. For further information on the retrofit kits, please refer to the special brochures.	1 687 001 846
CRIN	Special accessory set for common rail injectors for commercial vehicles for inspection of Bosch 1st and 2nd generation common rail injectors for commercial vehicles (without NIMA). Basic kit CRI 846 is prerequisite. For further information on the retrofit kits, please refer to the special brochures.	1 687 001 599
Computer	Standard processor unit without keyboard	1 687 022 958
Computer	Computing unit with measurement PCBs without keyboard incl. VPM 844 software	1 687 022 959
Computer upgrade	Upgrade of common rail computer unit for testing of distributor pumps (VP 29/30/44)	1 687 001 556
Keyboard	Country-specific keyboard	1 687 022 3xx
PDR 358	Report printer Printer connecting cable	1 687 023 358 1 684 465 309
Heat exchanger	Required for supplementary-equipment sets CRS 845 and VPM 844	1 687 010 130
Recirculation cooler	5 kW (230 V/50 Hz) 10 kW (400 V/50 Hz)	1 687 001 588 1 687 001 589
EPS Oil lubrication supply	(200 – 500 V)	1 687 001 362
MGT 812	Mechanical fuel delivery measuring device Measuring glass holder inc. measuring glass operating unit	0 683 812 001
MGT 824	Mechanical fuel delivery measuring device Measuring glass holder inc. operating unit with lateral shift for 4-fold equipping and the option of using larger measuring glasses	0 683 824 001
MGT	Measuring glass lighting for MGT 812 (50 Hz) for MGT 812 (60 Hz) for MGT 824 (50 Hz) for MGT 824 (60 Hz)	1 687 001 393 1 687 001 394 1 687 001 395 1 687 001 396
MGT 824	Extension kit (double equipment) from 12 measuring glasses 44/260 ml (scope of delivery) to 24 measuring glasses 44/260 ml (for MGT 824 only)	1 687 001 414
MGT 824	Measuring glass unit with 12 measuring glasses 155 ml and 12 measuring glasses 440/600 ml (for MGT 824 only)	1 688 005 065

Room concept



The ideal workbench for diesel service

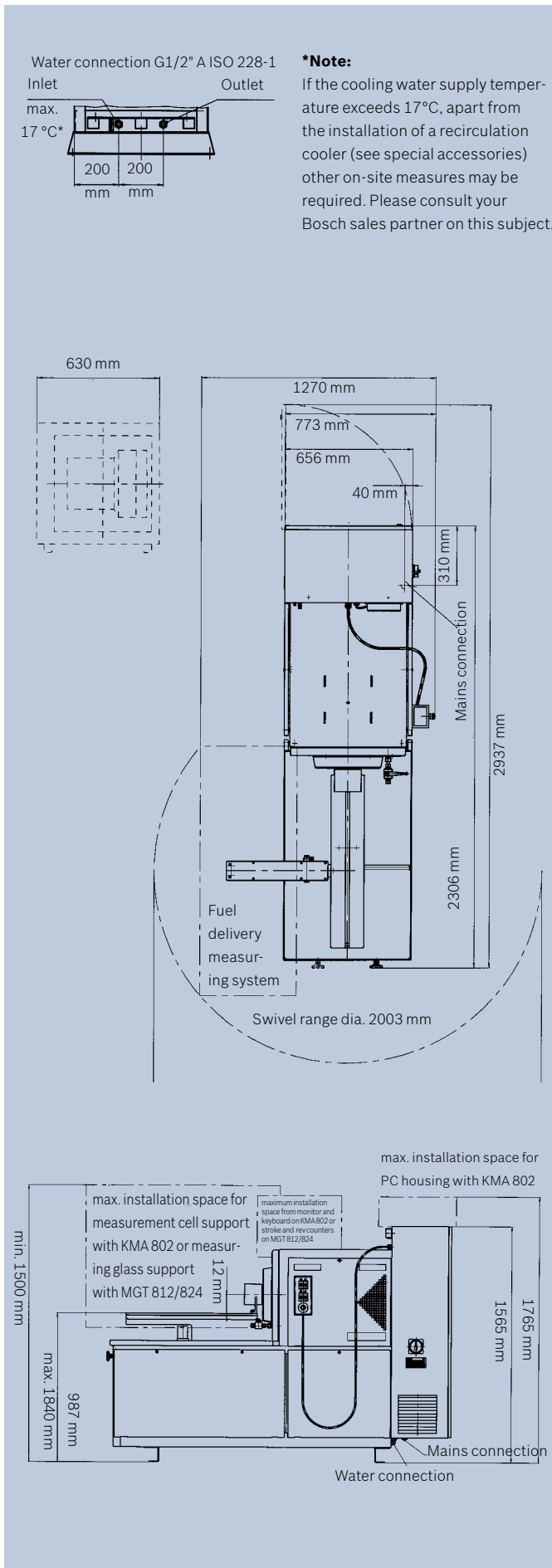
The workstation for repair of diesel pumps and components meets the highest demands on cleanliness, clarity and functionality, as even the smallest particles of dirt in diesel systems can lead to malfunctions.

The room should meet the following requirements:

- Sealed concrete floor with damping elements on the test bench feet
- Sufficient ventilation by means of a vapour extraction system
- Noise insulation is recommended
- A water connection with inlet and outlet or recirculating cooler

System dimensions, data & facts

System dimensions



Data and facts

Technical data – basic test bench EPS 815

Dimensions: L x H x W	mm	2260 x 1588 x 860
Weight approx.	kg	1000

Drive:

Special motor with full protection (thermal and overload)

Coupling output, basic model

Release of power (permanent output) kW 10.2

Release of power (20 min) kW 15

Release of power (60 s) kW 17.5

Safety fuse A by customer 35

FI protection mA 300

Torque coupling (permanent)

0 to 590 rpm Nm 164

0 to 850 rpm Nm –

at 1500 rpm Nm 65

at 2500 rpm Nm 38

Torque coupling (60 s)

0 to 590 rpm Nm 280

0 to 850 rpm Nm –

at 1500 rpm Nm 111

at 2500 rpm Nm 67

Speed range rpm 0 – 4000

Speed control accuracy rpm < ± 1

Speed control reaction time

Speed control velocity rpm/s 250

Direction of rotation: anti-clockwise/clockwise

Positioning accuracy (position control) <° 0,1

Moment of inertia of graduated flywheel kgm² 1.5

Shaft height (from mounting bed to centre of drive coupling) mm 125

Drive coupling:

Multi-plate coupling with no play, as per ISO Nm/° 2600

Power supply 12/24 V for start/stop solenoids A 7

Supply pump capacity:

Test oil pressure (low) kPa 0 – 600
l/min 0 – 22

Test oil pressure (high) Mpa 0 – 6
l/min 0 – 1.4

Oil lubrication pressure (special accessory) kPa 0 – 600
l/min 0 – 5.8

Pressure gauges:

Low pressure kPa 0 – 600

High pressure Mpa 0 – 6

Vacuum/pump internal pressure kPa -100-0-250

Delivery pump pressure Mpa 0 – 1.6

Oil lubrication pressure (special accessory) Mpa 0 – 1

Heating/cooling:

Test oil heating: electric approx. kW 2.2

Test oil cooling: Connection ISO 288 G1/2

Cooling-water consumption approx. l/min 9

Cooling water temperature max. °C 17

Fill quantities:

Test oil approx. l 50

Storage capacity for waste oil approx. l 6

Oil lubrication (special accessory) approx. l 12

Test bench colour:

Green RAL 6018

EPS 815**Order number**

400 V ± 10 %*); 50 / 60 Hz	0 683 815 001
200 / 220 / 230 / 240 V ± 10 %*) 50 / 60 Hz	0 683 815 002
440 / 460 / 480 / 500 V ± 10 %*) 50 / 60 Hz	0 683 815 003

*) max. perm. asymmetry (L:L or L:N) < 20 V

Equipment supplied

- Selector tap with flush valve for distr. type injector test
- Hose lines for selector tap and test oil
- Box spanner for test nozzle holder
- Rotary pin for flywheel mass
- Set of screwdrivers
- Connecting cables for additional fuel start-stop solenoids and for temperature sensor
- Insulating boards for test bench installation
- Coupling assembly in accord. with ISO with protective hood
- Sundry parts set (unions, banjo bolts, seals/gaskets etc.)
- Technical documentation

Technical data – measuring devices

MGT 812, 824		
Weight	kg	33 / 39
Dimensions	L x H x W mm	825 x 590 x 285 / 840 x 630 x 290
Speed measurement range	rpm	0 – 6400
Speed measurement accuracy	rpm	< ± 0.25 % ± 1 digit
Stroke rate range in steps of 50	Stroke	50 – 5000
Stroke rate accuracy	Stroke	< ± 0.4
Temperature measurement range	°C	-40 – +150
Temperature control range	°C	+30 – +60
Temperature measurement accuracy	°C	40 ± 0.; 80 ± 1.
Overflow volume measurement	l/h	15 – 260
Number of measuring points		12
Measuring glass size	ml	44 + 260
Operating hours counter		40 years in 0.25 hour cycle

Equipment supplied

- Measuring glass holder
- Stroke rate counter with temperature regulator
- 12 x 44 ml measuring glasses and 12 x 260 ml measuring glasses
- 2 protective sleeves for test value sheet

KMA 802, 822		
Weight	kg	68 / 100
Dimensions	L x H x W mm	840 x 630 x 290 / 630 x 1700 x 630
Speed measurement range	rpm	0 – 5000
Speed measurement accuracy	rpm	< ± 0.25 % ± 1 digit
Temperature measurement range	°C	-40 – +150
Temperature control range	°C	+30 – +60
Temperature measurement accuracy	°C	40 ± 0,5; 80 ± 1,2
Overflow volume measurement	l/h	15 – 400
Number of measuring points		12
Measuring range	l/h	0.03 – 30
Max./min. volume within measurement range	mm ³ /stroke	0.2 – 3000
Measuring accuracy	l/h	0.03 – 0.1 < ± 3 %
	l/h	0. – 1 < ± 2 %
	l/h	1 – 30 < ± 1 %
Max. permissible ambient temperature	°C	40
Operating hours counter		40 years in 0.25 hour cycle
Mains voltage		230 V – 50/60 Hz – 3 A
		20 V – 50/60 Hz – 5 A

Equipment supplied

- Delivery volume measuring device
- 15" LCD colour monitor on rotating bracket
- Support for keyboard
- Assembly and securing elements
- Power supply leads
- KMA 802 for assembly on the test bench inc. DVD drive
- KMA 822 with system carrier (trolley) for assembly next to test bench.

Information on further accessories and special accessories for the fuel-injection pump test bench is available in the ToolsCATalogue:
Order number: 1 987 729 257

Our **knowledge**, your **success**. Bosch Diagnostics

Diagnostics – the key to the automotive workshop of the future

Motor vehicle systems are becoming increasingly complex; the demands placed on qualified diagnosis in workshops are rising. For professional service on modern vehicles, Bosch provides everything at one stop, perfectly coordinated: testing technology, software, technical training and hotline, supplemented by parts in initial equipment quality.



ESI[tronic] – Software for diagnostics and service

- Simple operation
- Rapid access
- Modular structure
- Comprehensive market coverage
- Continually updated
- Universal operation regardless of manufacturer



Test technology – matched to each workshop type

- Optimized combination of hardware and software for rapid troubleshooting, qualified repair and high time savings
- PC-based, testing technology of the latest generation with extendable modules



Service training – knowledge as a factor for success

- Comprehensive training program for automotive workshops
- Practical training courses
- Highly qualified trainers with a great deal of practical experience



Technical hotline – support from the system developer

- Support in difficult technical situations
- Skills covering all brands and manufacturers

Bosch – **skilled partner** for workshop business

Developments from Bosch stand for innovative progress in automobile manufacturing

Geared to the growing proportion of electronics in the vehicle, Bosch offers workshops the suitable testing technology for all sizes of company and service concepts. Sturdy, innovative, state-of-the-art automobile technology: Computer-assisted diagnosis systems help in finding any fault more quickly and more reliably. The modular layout - using future-oriented technologies – enables broad networking and efficient use of comprehensive information from the ESI[tronic] software. Mobility and user-friendly user guidance support the workshop in reliable and timesaving diagnosis.



ECU Diagnostics KTS



Engine System Testing FSA



Emissions Analysis BEA



Diesel System Testing EPS



Battery Service BAT



Brake Testing BSA



Wheel Alignment FWA



Air Conditioning Service ACS

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