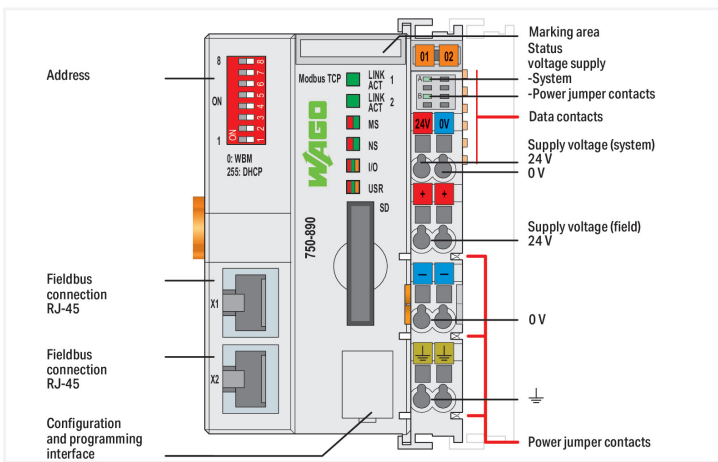
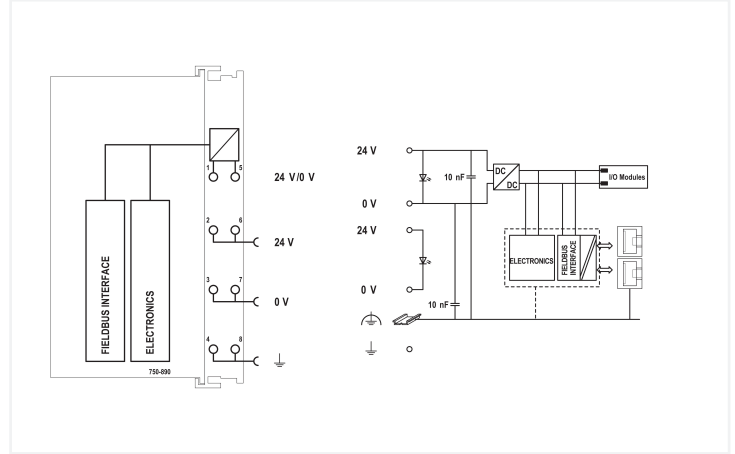
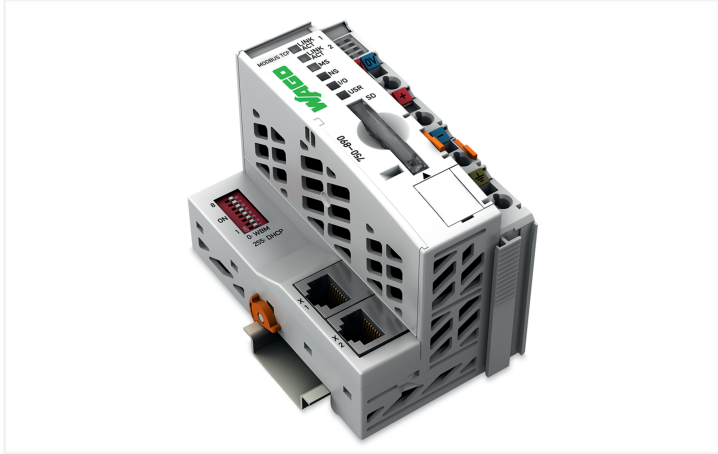


**Data Sheet | Item Number: 750-890**  
**Controller Modbus TCP; 4th generation; 2 x ETHERNET, SD Card Slot**

<https://www.wago.com/750-890>



The Modbus TCP Controller can be used as a programmable controller within ETHERNET networks along with the WAGO I/O System. The controller supports all digital and analog input/output modules, as well specialty modules found within the 750/753 Series, and is suitable for data rates of 10/100 Mbit/s.

Two ETHERNET interfaces and an integrated switch allow the fieldbus to be wired in a line topology, eliminating additional network devices, such as switches or hubs. Both interfaces support autonegotiation and Auto-MDI(X).

The DIP switch configures the last byte of the IP address and may be used for IP address assignment.

This controller supports Modbus TCP for use in industrial environments. It also supports a wide variety of standard ETHERNET protocols for easy integration into IT environments (e.g., HTTP(S), BootP, DHCP, DNS, SNMP, (S)FTP).

An integrated Webserver provides user configuration options, while displaying the controller's status information.

The IEC 61131-3 programmable controller is multitasking-capable and features a capacitor-backed RTC.

A data memory of 8 MB is available.

The controller is equipped with a removable memory card slot. A memory card can be used to transfer device parameters or files (e.g., boot files) from one controller to another. The card can be accessed via FTP and used as an additional drive.

## Technical data

Communications	Modbus (TCP, UDP)
ETHERNET protocols	HTTP(S) BootP DHCP DNS SNTP FTP(S) SNMP
Visualization	Web-Visu
CPU	32 bits
Programming languages per IEC 61131-3	Instruction List (IL) Ladder Diagram (LD) Function Block Diagram (FBD) Continuous Function Chart (CFC) Structured Text (ST) Sequential Function Chart (SFC)
Programming environment	WAGO-I/O-PRO V2.3 (based on CODESYS V2.3)
Configuration options	WAGO-I/O-CHECK Web-Based Management CODESYS Library
Transmission rate	10/100 Mbit/s
Transmission medium (communication/fieldbus)	Twisted pair S-UTP; 100 Ω; Cat. 5; 100 m maximum cable length
Transmission performance	Class D per EN 50173
Program memory	8 MB
Data memory	8 MB
Non-volatile software memory	32 KB
Type of memory card	SD and SDHC up to 32 GB (all guaranteed properties only valid with WAGO's memory card)
Memory Card Slot	Push-push mechanism; cover lid (sealable)
Number of modules per node (max.)	250
Number of modules without a bus extension (max.)	64
Input and output process image (fieldbus) max.	1020 words/1020 words
Powerfail RTC buffer	6 days (min.)
Indicators	LED (LINK/ACT) green: Network connection via ports 1 ... 2; LED (MS, NS) red/green: Status of node, network; LED (I/O, USR) red/green/orange: Local data bus status, status programmable by user; LED (A, B) green: System power supply status, field supply
Supply voltage (system)	24 VDC (-25 ... +30 %); via pluggable connector (CAGE CLAMP® connection)
Input current (typ.) at nominal load (24 V)	500 mA
Power supply efficiency (typ.) at nominal load (24 V)	90 %
Current consumption (5 V system supply)	440 mA
Total current (system supply)	1700 mA
Supply voltage (field)	24 VDC (-25 ... +30 %); via power jumper contacts
Current carrying capacity (power jumper contacts)	10 A
Number of outgoing power jumper contacts	3
Isolation	500 V system/field

## Connection Data

Connection technology: communication/fieldbus	Modbus (TCP, UDP); 2 x RJ-45
Connection technology: system supply	2 x CAGE CLAMP®
Connection technology: field supply	6 x CAGE CLAMP®
Connectable conductor materials	Copper
Connection type	System/field supply
Solid conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG
Fine-stranded conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 14 AWG
Strip length	8 ... 9 mm / 0.31 ... 0.35 inches
Connection technology: device configuration	1 x Male connector; 4-pole

### Physical data

Width	61.5 mm / 2.421 inches
Height	100 mm / 3.937 inches
Depth	71.9 mm / 2.831 inches
Depth from upper-edge of DIN-rail	64.7 mm / 2.547 inches

### Mechanical data

Mounting type	DIN-35 rail
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### Material data

Housing material	Polycarbonate; polyamide 6.6
Fire load	1.683 MJ
Weight	151.6 g
Conformity marking	CE

### Environmental requirements

Ambient temperature (operation)	0 ... +55 °C
Ambient temperature (storage)	-25 ... +85 °C
Protection type	IP20
Pollution degree	2 per IEC 61131-2
Operating altitude	without temperature derating: 0 ... 2000 m; with temperature derating: 2000 ... 5000 m (0.5 K/100 m); 5000 m (max.)
Mounting position	Horizontal left, horizontal right, horizontal top, horizontal bottom, vertical top and vertical bottom
Relative humidity (without condensation)	95 %
Vibration resistance	4g per IEC 60068-2-6
Shock resistance	15g per IEC 60068-2-27
EMC immunity to interference	per EN 61000-6-2, marine applications
EMC emission of interference	per EN 61000-6-3, marine applications
Exposure to pollutants	per IEC 60068-2-42 and IEC 60068-2-43
Permissible H <sub>2</sub> S contaminant concentration at a relative humidity 75 %	10 ppm
Permissible SO <sub>2</sub> contaminant concentration at a relative humidity 75 %	25 ppm

### Commercial data

PU (SPU)	1 pcs
Packaging type	Box
Country of origin	DE
GTIN	4055143821407
Customs tariff number	85371091990

### Product Classification

UNSPSC	32151705
eCl@ss 10.0	27-24-26-07
eCl@ss 9.0	27-24-26-07
ETIM 9.0	EC000236
ETIM 10.0	EC000236
ECCN	NO US CLASSIFICATION

**Environmental Product Compliance**

CAS-No.	1303-86-2 1317-36-8 7439-92-1 79-94-7
REACH Candidate List Substance	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol Diboron trioxide Lead Lead monoxide
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c) 7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	a178a5e7-7aff-4ef8-abf5-f8d37107fe10
SCIP notification number (Belgium)	d9ecd297-2f9a-4d3e-9968-c066008f9a1b
SCIP notification number (Bulgaria)	931be9f0-8b76-4c63-9255-96fc8ab3940a
SCIP notification number (Czech Republic)	d54b0132-d8dc-4522-a9ea-6037babd5cf8
SCIP notification number (Denmark)	18c3a65f-467a-4c68-90af-a4d79db320c0
SCIP notification number (Finland)	6add2a83-d722-4a88-9153-284078e24d59
SCIP notification number (France)	1718cffd-7b94-4ff9-a003-84a3867e7824
SCIP notification number (Germany)	bf462bbd-4a5f-4400-9344-76aabf6a6cb0
SCIP notification number (Hungary)	b1f5ec24-598d-4315-94c3-b90084e3b0eb
SCIP notification number (Italy)	6eb37179-69b5-4b2d-a8c6-d3427e2fcd1a
SCIP notification number (Netherlands)	9dd050c8-1497-49f0-8d72-1e37f6972b4a
SCIP notification number (Poland)	6f5382a3-a622-4087-94cb-2096b6aaf456
SCIP notification number (Romania)	f06ffb8c-98ba-4fbf-becc-ae69d9daa2aa
SCIP notification number (Sweden)	c020dade-472e-4dd5-87ec-4779356cd263

**Approvals / Certificates**

General approvals			Declarations of conformity and manufacturer's declarations		
Approval	Standard	Certificate Name	Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03083	EU-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-
KC National Radio Research Agency	Article 58-2, Clause 3	MSIP-REM-W43-PFC750	UK-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-
UL Underwriters Laboratories Inc. (ORDINARY LOCATI- ONS)	-	E175199			

**Approvals for marine applications**

Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	-	22-2219060
BSH Bundesamt fuer See- schiffahrt und Hydrogra- phie	-	1104

**Approvals for marine applications**

BV Bureau Veritas S.A.	Rules for class. of Steel Ships	66711/A0
DNV DNV GL SE	DNV-CG-0339,Aug.2021	TAA0000194
KR Korean Register of Ship- ping	-	KR HMB05880-AC001
LR Lloyds Register EMEA	-	LR22180952TA
PRS Polski Rejestr Statków	-	TE/1101/880590/23
RINA RINA Germany GmbH	-	ELE343521XG001

Approvals for hazardous areas



Approval	Standard	Certificate Name
ATEX TUEV Nord Cert GmbH	EN 60079-0	TUEV14ATEX148929X (II 3 G Ex ec IIC T4 Gc)
CCCEX CQST/CNEX	CNCA-C23-01	2020312310000213 (Ex ec IIC T4 Gc)
IECEX TUEV Nord Cert GmbH	IEC 60079-0	IECEX TUN 14.0035 X (Ex ec IIC T4 Gc)
INMETRO TÜV Rheinland do Brasil Ltda.	IEC 60079-0	TÜV 12.1297 X
UKEX WAGO GmbH & Co. KG	EN 60079-0	UKCA_WA GO22UKEX003X_ec
UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	UL 121201	E198726

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 750-890 <a href="#">↓</a>

Documentation

Manual			
Product Manual Controller Modbus TCP; G4; 2ETH; SD	V 1.3.1 25.05.2022	pdf 7409.85 KB	<a href="#">↓</a>
System Manual Series 750/753			<a href="#">↓</a>

System Description		
Overview on WAGO-I/O-SYSTEM 750 approvals	pdf 770.48 KB	<a href="#">↓</a>
750 Controller, General Product Information	pdf 507.50 KB	<a href="#">↓</a>

Bid Text			
750-890	26.06.2019	docx 19.63 KB	<a href="#">↓</a>
750-890	19.02.2019	xml 9.54 KB	<a href="#">↓</a>
ausschreiben.de 750-890			<a href="#">↓</a>

Instruction Leaflet			
CCC Ex (Additional information)	26.04.2023	pdf 159.76 KB	<a href="#">↓</a>

### CAD/CAE-Data

CAD data	CAE data
2D/3D Models 750-890	EPLAN Data Portal 750-890
	ZUKEN Portal 750-890

### Engineering-Software

Configuration and Commissioning Software			
WAGO-IO-PRO Demo-Version (759-912) / Serie 750, 758 und 762	V 2.3.9.68 17.02.2022	zip 122524.17 KB	
(759-316) WAGO Ethernet Settings / Serie 750	06.18.01.01 02.09.2021	zip 26678.54 KB	
WAGUpload	1.16.1.0 02.02.2022	zip 12111.45 KB	

### Runtime Software

Firmware			
0750-089x, Controller	V 11 24.08.2023	zip 4696.31 KB	

### 1 Compatible Products

#### 1.1 Required Accessories

##### 1.1.1 Memory card

###### 1.1.1.1 Memory card



**Item No.: 758-879/000-2108**

Memory Card SD; pSLC-NAND; 8 GB; Temperature range: -40 to 90°C

**Item No.: 758-879/000-001**

Memory Card SD; SLC-NAND; 2 GByte; Temperature from -40 to 90 °C

#### 1.2 Optional Accessories

##### 1.2.1 Cables and connectors

###### 1.2.1.1 Connector plug



**Item No.: 750-979/000-011**

Connector ETHERNET; RJ-45; Cat. 6A; angled; Code T568A; AWG 22; Strain relief

**Item No.: 750-979/000-021**

Connector ETHERNET; RJ-45; Cat. 6A; angled; Code T568A; AWG 24; Strain relief

**Item No.: 750-979/000-012**

Connector ETHERNET; RJ-45; Cat. 6A; angled; Code T568B; AWG 22; Strain relief

**Item No.: 750-979/000-022**

Connector ETHERNET; RJ-45; Cat. 6A; angled; Code T568B; AWG 24; Strain relief



**Item No.: 750-977/000-011**

Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 22

**Item No.: 750-978/000-011**

Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 22; Strain relief

**Item No.: 750-977/000-021**

Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 24

**Item No.: 750-978/000-021**

Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568A; AWG 24; Strain relief

1.2.1.1 Connector plug



**Item No.: 750-977/000-012**  
 Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 22

**Item No.: 750-978/000-012**  
 Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 22; Strain relief

**Item No.: 750-977/000-022**  
 Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 24

**Item No.: 750-978/000-022**  
 Connector ETHERNET; RJ-45; Cat. 6A; straight; Code T568B; AWG 24; Strain relief



**Item No.: 750-975**  
 ETHERNET RJ-45 connector, IP20; ETHERNET 10/100 Mbit/s; for field assembly

1.2.2 Communication

1.2.2.1 Communication cable



**Item No.: 750-923/000-001**  
 Configuration cable; USB connector; Length: 5 m

1.2.3 DIN-rail

1.2.3.1 Mounting accessories



**Item No.: 210-196**  
 Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored



**Item No.: 210-198**  
 Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored



**Item No.: 210-197**  
 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored



**Item No.: 210-114**  
 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored



**Item No.: 210-118**  
 Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored



**Item No.: 210-115**  
 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm; silver-colored



**Item No.: 210-112**  
 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm; silver-colored



**Item No.: 210-113**  
 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored

1.2.4 Marking

1.2.4.1 Group marker carrier



**Item No.: 750-106**  
 Group marker carrier

1.2.4.2 Marker



**Item No.: 750-100**  
 Marker card; as a DIN A4 sheet; plain



**Item No.: 2009-145/000-006**  
 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue



**Item No.: 2009-145/000-007**  
 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray



**Item No.: 2009-145/000-023**  
 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green



**Item No.: 2009-145/000-012**  
 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange



**Item No.: 2009-145/000-005**  
 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; red



**Item No.: 2009-145/000-024**  
 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet



**Item No.: 2009-145**  
 Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

1.2.4.2 Marker



**Item No.: 2009-145/000-002**

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow

**Item No.: 248-501/000-006**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue

**Item No.: 248-501/000-007**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray

**Item No.: 248-501/000-023**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green



**Item No.: 248-501/000-017**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green

**Item No.: 248-501/000-012**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange

**Item No.: 248-501/000-005**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red

**Item No.: 248-501/000-024**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet



**Item No.: 248-501**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white

**Item No.: 248-501/000-002**

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow

1.2.4.3 Marker carrier



**Item No.: 750-103**

Group marker carrier

1.2.5 Shield termination

1.2.5.1 Shield clamping saddles



**Item No.: 790-108**

Shield clamping saddle; 11 mm wide; diameter of compatible conductor; 3 ... 8 mm

**Item No.: 790-208**

Shield clamping saddle; 12.4 mm wide; 3 ... 8 mm

**Item No.: 790-116**

Shield clamping saddle; 19 mm wide; diameter of compatible conductor; 7 ... 16 mm

**Item No.: 790-216**

Shield clamping saddle; 21.8 mm wide; 6 ... 16 mm



**Item No.: 790-124**

Shield clamping saddle; 27 mm wide; diameter of compatible conductor; 6 ... 24 mm

**Item No.: 790-220**

Shield clamping saddle; 30 mm wide; 6 ... 20 mm

**Item No.: 790-140**

Shield clamping saddle; diameter of compatible conductor

1.2.7 System enclosure

1.2.7.1 System enclosure



**Item No.: 850-825**

IP65 enclosure; Aluminium (RAL 7032); WxHxD (160x100x160 mm); 9 x M12, 4 x M20

**Item No.: 850-826**

IP65 enclosure; Aluminium (RAL 7032); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip

**Item No.: 850-827**

IP65 enclosure; Aluminium (RAL 7032); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip

**Item No.: 850-828**

IP65 enclosure; Aluminium (RAL 7032); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip



**Item No.: 850-826/002-000**

IP65 enclosure; Aluminium (RAL 7035); WxHxD (240x100x160 mm); 4 x M20, 4 x M16, 14 x M12 cable grip

**Item No.: 850-827/002-000**

IP65 enclosure; Aluminium (RAL 7035); WxHxD (320x100x160 mm); 4 x M20, 8 x M16, 17 x M12 cable grip

**Item No.: 850-828/002-000**

IP65 enclosure; Aluminium (RAL 7035); WxHxD (480x100x160 mm); 4 x M20, 10 x M16, 35 x M12 cable grip

**Item No.: 850-834**

IP65 enclosure; Polyester (RAL 7032); WxHxD (164x100x164 mm); 9 x M12, 4 x M20



**Item No.: 850-835**

IP65 enclosure; Polyester (RAL 7032); WxHxD (244x100x164 mm); 4 x M20, 4 x M16, 14 x M12 cable grip

**Item No.: 850-836**

IP65 enclosure; Polyester (RAL 7032); WxHxD (324x100x164 mm); 4 x M20, 8 x M16, 17 x M12 cable grip

**Item No.: 850-814/002-000**

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (200x120x200 mm); without flange plate

**Item No.: 850-815/002-000**

IP65 enclosure; Sheet steel (RAL 7035); WxHxD (300x120x200 mm); without flange plate

### 1.2.7.1 System enclosure



**Item No.: [850-816/002-000](#)**

IP65 enclosure; Sheet steel (RAL 7035);  
WxHxD (400x120x200 mm); without flange plate

**Item No.: [850-817/002-000](#)**

IP65 enclosure; Sheet steel (RAL 7035);  
WxHxD (600x120x200 mm); without flange plate