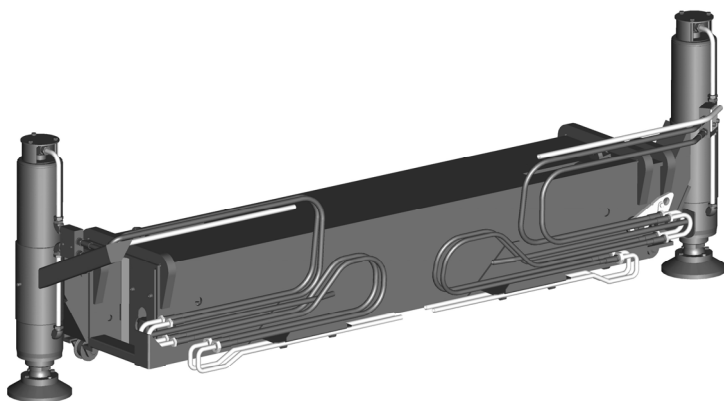


USER MANUAL

OUTRIGGERS



AMCO  **VEBA**
A HYVA GROUP COMPANY

7845448-03 12/17
subject to change without notice

ORIGINAL INSTRUCTIONS

USER MANUAL

OUTRIGGERS

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USER MANUAL

OUTRIGGERS

WARNINGS

A WARNINGS

A.1 GENERAL WARNINGS

There are specific hazards for cranes operating with outrigger, as listed below:

- Crushing and cutting hazard for upper limbs between extensions.
- Crushing hazard for lower limbs during opening of stabiliser cylinders and closing of extensions.
- Hazards due to imperfect stabilization of the machine.



WARNINGS

- Keep all personnel away from the hydraulic stabilizer extensions during opening. Do NOT bang into the stabilizers when the crane is being stabilized.



- Do NOT place feet or limbs under the stabilizer feet during crane stabilisation.



- Do NOT place limbs between stabilizer legs and vehicle when retracting the stabilizer extensions.
- When operating the crane, do NOT place upper limbs near the stabilizer extensions entry points in the cross-beam.



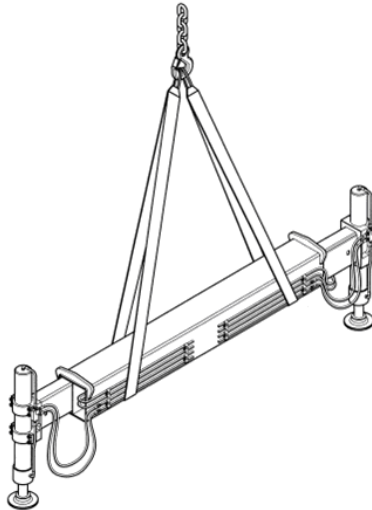
- For other information refer to the User Manual of the manufacturer.



A.2 WARNINGS DURING LIFTING AND TRANSPORT

Before installation, the outriggers shall be handled safely to avoid falls and collisions with things and people. During transport the carrier must respect the following instructions:

- the carrier is responsible for the outriggers and must be qualified
- use means of transport and lifting equipment of adequate capacity
- lift the outriggers using a forklift on pallet or a crane with slings and chains of adequate capacity
- pay special attention to keep the load balanced during lifting



- during transport by land and sea, fix the cross-beam or its container to the means of transport (body, container, holder, etc.). Protect the machine properly from atmospheric agents. Never unpack the outriggers.

USER MANUAL

OUTRIGGERS

USE

B USER MANUAL

B.1 PREMISE

Dear Customer,

Thank you for buying our product.

We have done everything we can to supply you with an excellent and safe product.

Please follow this User Manual to ensure crane safety:

- Follow the warnings as well user and maintenance instructions.
- Perform routine maintenance to keep your machine efficient and safe.
- Keep the machine clean. Dirt increases wear of the cylinders. Leaks of oil are the main cause of accidents.
- Keep this manual in a safe place with the machine so that it is always accessible to the user.
- If the machine is sold, the new owner must request an updated version of this manual.
- Refer to an authorised assistance centre in the event of damage or loss of this manual.



This User Manual is for the additional stabilizers only and does not refer to the vehicle. The complete user manual is released by the installer which is responsible for applying the EC mark to the assembly.

Yours sincerely



USER MANUAL

OUTRIGGERS

USE

B.2 IDENTIFICATION

MANUFACTURER

H.C.E. s.r.l. one sole share holder

Via Einstein 4,
42028 POVIGLIO (RE) ITALY

IDENTIFICATION DATA

Model: : _____

Serial number: : _____

DESIGN STANDARD

DIN 15018



USER MANUAL

OUTRIGGERS

USE

B.3 DESCRIPTION AND DOCUMENTATION

The outriggers are exclusively designed to be installed on vehicles with cranes equipped with own stabilizers. They help to increase the stability of the vehicle during lifting operations.

The assembly must be performed by an authorised assistance centre in accordance with the instructions provided by the manufacturer and the vehicle setup specifications.

The installer must provide training for operators concerning all aspects of functioning at the moment of machine delivery in accordance with ISO 9926-1.

The installer must give the final customer the following documents, completed and signed as necessary:

- EC declaration (only EC countries);
- Installer manual;
- User Manual;

The owner is responsible for the routine inspections required by law.

B.3.1 MARK

An indelible plate containing the following information is fitted on every supplementary stabilizer:

- name and address of manufacturer
- CE mark (only for EC machines)
- type
- serial number
- year of construction
- maximum load permitted on the stabilizer leg
- total weight



CE



NO CE

The plate is riveted to the cross-beam.



USER MANUAL

OUTRIGGERS

USE

B.3.2 DELIVERY CONDITIONS

The outriggers are delivered coated with 1K-primer only. For this reason we recommend to protect the structure from atmospheric agents (humidity, rain, marine environment, etc.) before installation. After installation apply a suitable topcoat over the primer.

B.3.3 SERVICE CONDITIONS

The machine is designed to operate under the following conditions:

Service conditions

 DESCRIPTION	RANGE
Environmental temperature	-10°C ÷ 40°C
Hydraulic oil temperature	-10°C ÷ 80°C
Bearing capacity of the ground supporting the stabilizer legs	> max stabilizer pressure on the ground
Weather	Do NOT use during storms
Forbidden work environments	Marine environments Explosive environments
IP protection class	IP 65



If the service conditions are not fulfilled, stop work immediately.



USER MANUAL

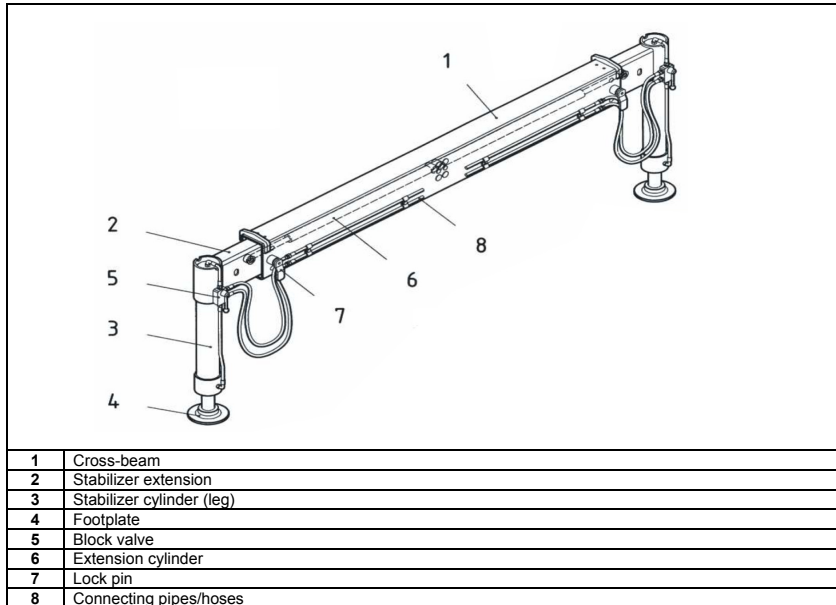
OUTRIGGERS

USE

B.3.4 MAIN COMPONENTS

A list of the main components of outriggers is given below:

MAIN COMPONENTS



USER MANUAL

OUTRIGGERS

USE

B.3.5 SAFETY DEVICES

The operating safety of outriggers depends on the efficiency of safety devices installed on the vehicle: this has to be fitted with a visual and acoustic device to warn the driver that the outriggers are not fully retracted.

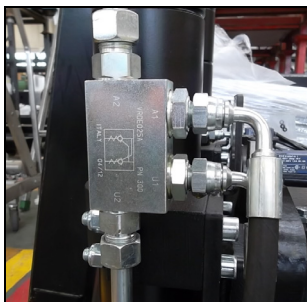
The outrigger are furthermore equipped with the following safety devices:

BLOCK VALVES

All stabilizer cylinders are equipped with pilot check valves.

If the pressure in the hydraulic system drops suddenly, these valves prevent accidental yielding of the cylinders and loss of stability of the vehicle. The valves can be supplied in hand-operated version with release lever or in pilot-operated version with automatic release.

Most of the models are fitted with double-acting pilot check valves.



SEMI-AUTOMATIC EXTENSION LOCK WITH LEVER

Its purpose is to lock automatically the stabilizer extensions in fully extended and fully retracted position, when the lever is turned downwards.



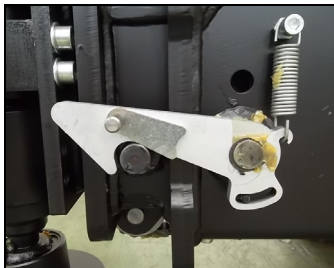
USER MANUAL

OUTRIGGERS

USE

AUTOMATIC EXTENSION LOCKS WITH SPRING (NO AA CRANE)

Its purpose is to lock automatically the stabilizer extensions in their fully retracted position.

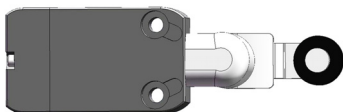


Failure to lock the extensions could cause damage to property and injury to people.

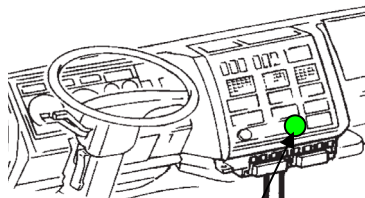
DEVICE SIGNALLING THE CLOSING OF THE STABILIZER EXTENSIONS

This device consists of contact micro-switches connected with a two-colour light installed in the cab:

- **Green light, no audible signal:** all stabilizer extensions are retracted and locked.
- **Red light, intermittent audible signal:** one or more stabilizer extensions are not fully retracted.



1



2



The user cannot move the vehicle if the warning light is red.



B.4 HOW TO OPERATE THE OUTRIGGERS

B.4.1 PRELIMINARY CHECKS BEFORE OPERATIONS

Before operating the outriggers, the user must check that:

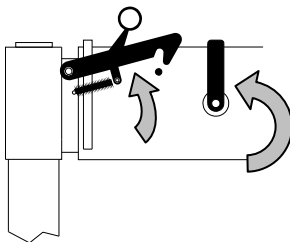
- there are no parts on the equipment which have not been checked or are not permitted.
- the structure and the safety devices are intact and working.
- the hydraulic system, fittings, valves and safety devices are efficient. Check there are no oil leaks.
- screws, nuts, bolts and pins are correctly tightened and in perfect conditions.
- all warning labels are present and intact.
- the stability control system (only for EC cranes) is efficient: check that the Leds of proximities mounted on the cross-beam are ON when the stabilizers are deployed correctly

B.4.2 OPENING PROCEDURE

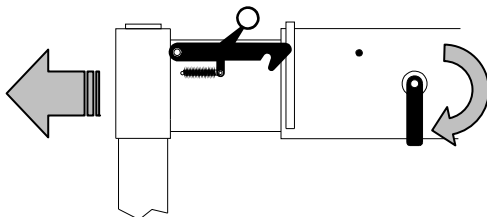
The outrigger stabilizers are operated by stabilizer control levers at the crane controls.

Always use the controls on the side on which the crane is being operated. Operate as follows:

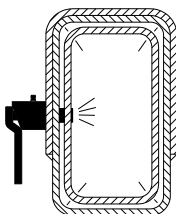
- 1) Block the wheels with suitable wedges.
- 2) Disengage the locking devices from the stabilizer extension.



- 3) Extend the extension by few centimetres and engage the locking devices.



- 4) Fully extend the stabilizer extension: check that the lock pin is perfectly inserted in the beam.

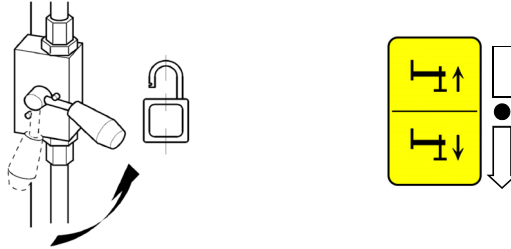


USER MANUAL

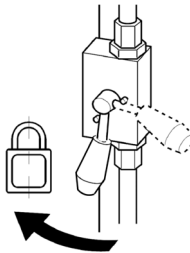
OUTRIGGERS

USE

5) Unlock the check valve (if with lever), then extend the stabilizer cylinder without fully discharging the vehicle's suspensions.



6) Lock the check valve (if with lever).



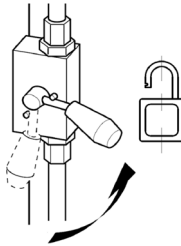
Crane operations are allowed only after all stabilizers are deployed correctly.



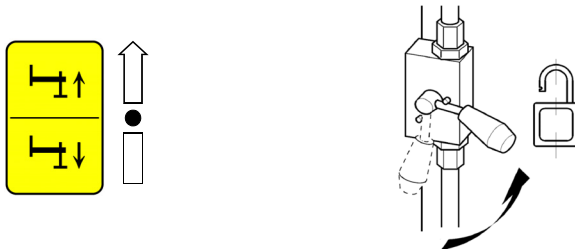
B.4.3 CLOSING PROCEDURE

The outrigger can be closed exclusively after the crane is folded in transport position. Always use the controls on the side on which the crane is being operated. Operate as follows:

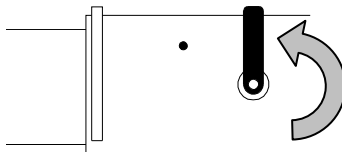
- 1) Unlock the check valve (if with lever)



- 2) Fully retract the stabilizer cylinders, lock the check valve (if with lever).



- 3) Disengage the extension locking device from the stabilizer beam.

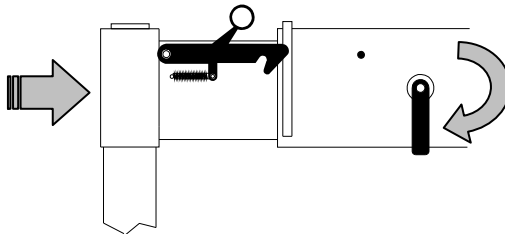


USER MANUAL

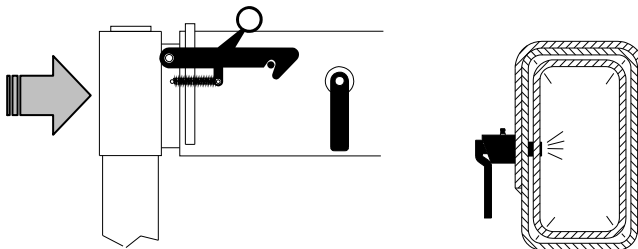
OUTRIGGERS

USE

- 4) Retract the extension by few centimetres, engage the extension locking device.



- 5) Fully retract the stabilizer extension: check that the lock pin is perfectly inserted in the beam.



- 6) Remove the wedges.



It is forbidden to move the truck if all stabilizers are not retracted and not locked correctly.

B.4.4 COMPULSORY SAFETY CHECKS BEFORE LEAVING THE WORK PLACE

Before leaving the work place check that:

- the extensions are locked by locking devices and the legs are completely retracted.
- in EC area a warning light installed in cab signals if the machine is not folded correctly in transport position: the operator cannot move the vehicle if the light is red.



USER MANUAL

ADDITIONAL STABILIZERS

MAINTENANCE

C MAINTENANCE MANUAL

C.1 WARRANTY TERMS

The manufacturer declines all responsibility for damage caused by failed maintenance or lubrication. Preventive routine maintenance refers to machine use in non-abrasive and non-corrosive environments. Failure to abide by this stipulation shall result in all guarantees for faults being declared null and void.

All repairs, modifications and maintenance (excluding routine) must be performed exclusively by an authorised assistance centre.

All repair reports drafted by authorised assistance centres following routine and extraordinary maintenance shall be recorded and archived by the owner.

C.2 ORDINARY MAINTENANCE

The following routine maintenance shall be performed by the operator to ensure machine efficiency:

- greasing
- cleaning

Check the following before performing any maintenance operation:

- The vehicle must be switched OFF and the brake applied
- The power supply of the machine must be switched OFF

C.2.1 GREASING

Grease the machine at regular intervals to improve functioning and avoid unnecessary extraordinary maintenance. Greasing occurs in two different ways:

- manual
- under pressure

MANUAL GREASING

Remove grease from extensions using a soft spatula (plastic or wood). Use a brush to spread a new layer of grease on the contact surface.

PRESSURE GREASING

Carefully clean the grease nipple. Insert new grease until the grease is coming out of the joints to ensure that all the old grease is replaced by new grease. Carefully remove any excess grease.

RECOMMENDED GREASES

Use a type of grease compatible with that indicated in the following table.

Do NOT use greases containing Molybdenum Disulfide.

Recommended greases

TOTAL	MOBIL	ESSO	AGIP	IP
MULTIS EP2	MOBIL GREASE MP	BEACON EP2	GR MU EP2	ATHESIA EP2

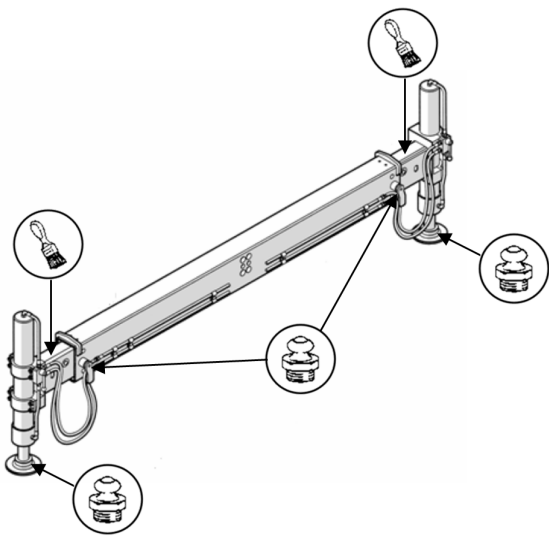


USER MANUAL

ADDITIONAL STABILIZERS

MAINTENANCE

GREASING CHART

	
	Manual greasing of stabilizer extensions' sliding surfaces Frequency of greasing: 100 working hours / 90 days
	Greasing under pressure of nipples Frequency of greasing: 50 working hours / 40 days

C.2.2 CLEANING

In order to protect the corrosion-resistant layers of the machine, do NOT use hot cleaning agents under pressure with a temperature higher than 60°C.

Use always biodegradable cleaning agents.

To avoid oxidation of chrome-plated parts, only use PH neutral cleaning agents.

In any case it is forbidden to direct pressurized jets close to the electric components.



USER MANUAL

ADDITIONAL STABILIZERS

MAINTENANCE

C.3 PLANNED MAINTENANCE

The owner of the machine is responsible for contacting an authorised assistance centre to perform planned maintenance with the following intervals:

SERVICE 10: after the first 10 working hours

SERVICE 100: after the first 100 working hours

SERVICE 500: after the first 500 working hours

SERVICE 1000: after the first 1000 working hours

SERVICE "n. hours": after "n. hours" working hours

The maintenance register in Annex E.6 lists the checks which must be carried out during planned maintenance. The following legend explains the meaning of the symbols used in the annex.

Legend

 Visual check	 Tightening check	 Lubrication	 Operating test
--	--	---	--

C.4 EXTRAORDINARY MAINTENANCE

Extraordinary maintenance means all maintenance not described as part of routine maintenance (e.g. problems relating to defects and accidents).

Extraordinary maintenance must be performed by an authorised assistance centre.

C.5 INACTIVITY

After long periods of inactivity (generally over 6 months) it is necessary to provide an extraordinary maintenance for the machine in an authorized workshop.

If considered necessary, for any reason, to remove the cross-beam from the vehicle, it is compulsory to call an authorized workshop: in this case it is recommended to close the cross-beam, to take it in a sheltered place and to protect the chrome-plated parts with a film of lubricant.

C.6 TAKING THE CROSS-BEAM OUT OF SERVICE

At the end of its working life or for other reasons, it may be necessary to take the cross-beam out of service. In this case you must contact an authorised workshop.

C.6.1 DISASSEMBLY

- 1) Prepare a site suitable for disassembly and a lifting device of sufficient capacity.
- 2) After positioning the vehicle and applying the parking brake detach the electrical connections from the electrical system.
- 3) Disconnect the hydraulic connections. Beware of escaping oil.
- 4) Remove the connections to frame.
- 5) Lift the machine and place it in a flat and stable position on the ground.
- 6) Protect all disassembled parts from atmospheric agents.

All disassembled elements (plastics, hydraulic oil, hoses, etc.) must be collected and eventually disposed of in compliance with legislative requirements.



USER MANUAL

ADDITIONAL STABILIZERS

MAINTENANCE

C.6.2 STORAGE

The machine must be stored with the following precautions:

- Take the machine on flat and stable ground.
- Cut off the hydraulic and electric circuits.
- Secure the cross-beam properly in order to avoid falls due to accidental impacts.
- Carry out all precautions in order to avoid leakage of polluting materials and substances (oil, grease, plastic, hoses, etc.)
- Protect the cross-beam from atmospheric agents (humidity, marine environment, etc.) with suitable package.

C.6.3 DISPOSAL

The outriggers must be disposed of by an authorised waste management company in accordance with current legislation. Verify that all components cannot be re-used.



USER MANUAL
OUTRIGGERS
TECHNICAL SHEET

D TECHNICAL SHEET

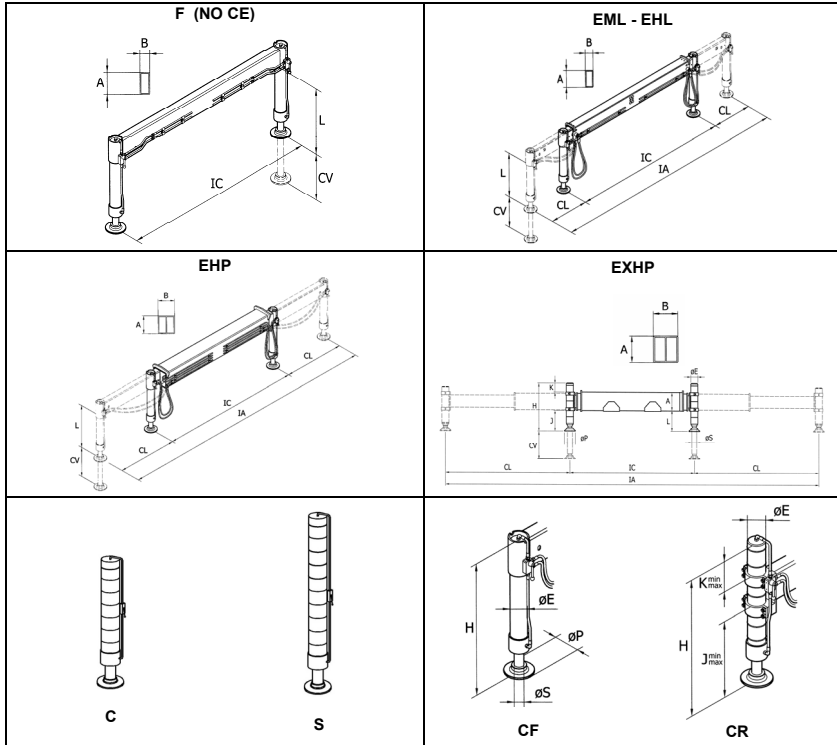


USER MANUAL

OUTRIGGERS

TECHNICAL SHEET

D.1 TYPOLOGIES OF OUTRIGGERS



F	Cross-beam with 2 fixed legs
EML	Cross-beam with 2 aligned extensions, manually operated
EHL	Cross-beam with 2 aligned extensions, hydraulically operated
EHP	Cross-beam with 2 parallel extensions, hydraulically operated
EXHP	Cross-beam with 2 parallel double extensions, hydraulically operated
C/S	Short / Standard cylinder
CF/CR	Standard / Adjustable cylinder

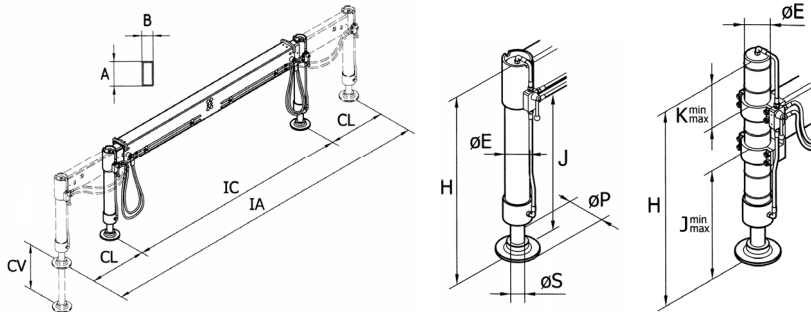


USER MANUAL

OUTRIGGERS

TECHNICAL SHEET

D.2 TECHNICAL DATA



Code	Serie Model	Main dimensions mm											R _{max} kg	W kg
		IC	CL	IA	AxB	CV	ØP	ØE	ØS	H	J (min) (max)	K (min) (max)		
7850062	0A TD EML/S-CF	1800	500	2800	120x80	355	160	70	40	550	470	0	1550	110
7850070	0A TD EML/S-CR	1800	500	2800	120x80	355	160	75	40	530	85 385	70 370	1550	115
7850064	0A TD F/S-CF	1800	-	-	120x80	355	160	70	40	550	460	0	2350	65
7850063	0 TD F/S-CF	2000	-	-	120x80	355	160	70	40	550	460	0	2950	70
7850071	0C TD EML/S-CR	1925	500	2925	150x100	355	160	75	40	530	85 385	40 340	2950	140
7850061	0 TD EML/S-CR	2100	600	3300	150x100	355	160	75	40	530	85 385	40 340	2950	150
7850060 7850088+	1 TD F/S-CR	2000	-	-	180x100	450	160	90	60	700	130 575	0 440	6250	145
7850059 7850086+	1 TD EML/S-CR	2125	600	3325	200x100	450	160	90	60	700	115 560	0 430	6250	210
7850058 7850087+	1 TD EHL/S-CR	2125	600	3325	200x100	450	160	90	60	700	115 560	0 430	6250	225
7850074	2 TD EHL/C-CR	2134	600	3334	200x120	470	200	100	60	752	115 595	0 485	8200	260
7850073	2 TD EHL/S-CR	2134	600	3334	200x120	550	200	100	60	832	115 685	0 565	8200	270
7850057	2 TD EHP/S-CR	2146	1300	4746	200x235	550	200	100	60	832	115 685	0 565	8250	390
7850056	4 TD EHP/C-CR	2220	1400	5020	300x235	565	200	110	70	842	70 630	0 520	12700	540
7850055	4 TD EHP/S-CR	2220	1400	5020	300x235	735	200	110	70	1012	70 755	0 690	12700	570
7850052	5 TD EXHP/C-CR	2300	2300	6900	320x350	460	200	120	90	852	145 700	0 435	15150	1060

where:

R_{max}: max. allowable load on the stabilizer legs

W: weight

+ : outriggers kit equipped with control valve

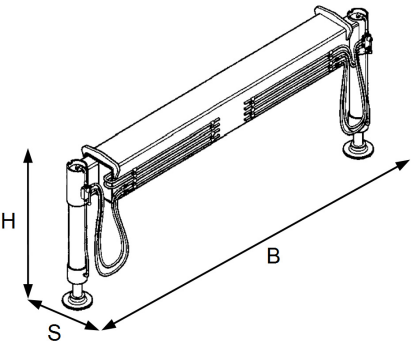


USER MANUAL

OUTRIGGERS

TECHNICAL SHEET

D.3 OVERALL DIMENSIONS

Code	Overall dim. BxHxS mm	
7850062	1960x610x220	
7850070	1960x600x220	
7850064	1960x600x170	
7850063	2160x600x170	
7850071	2085x580x220	
7850061	2260x580x220	
7850060 - 7850088	2160x770x190	
7850059 - 7850086	2285x780x240	
7850058 - 7850087	2285x780x240	
7850074	2334x840x220	
7850073	2334x930x220	
7850057	2346x930x400	
7850056	2420x970x430	
7850055	2420x1095x430	
7850052	2500x1040x540	

D.4 CAPACITY OF HYDRAULIC SYSTEM

Code	Cylinders Extended t	Cylinders retracted t
7850062	1.0	0.6
7850070	1.2	0.8
7850064	1.0	0.6
7850063	1.0	0.6
7850071	1.2	0.8
7850061	1.2	0.8
7850060 - 7850088	2.0	0.7
7850059 - 7850086	2.4	0.8
7850058 - 7850087	2.7	1.1
7850074	3.3	1.6
7850073	4.0	2.0
7850057	4.6	2.4
7850056	5.6	2.7
7850055	6.6	3.1
7850052	6.5	2.2



USER MANUAL

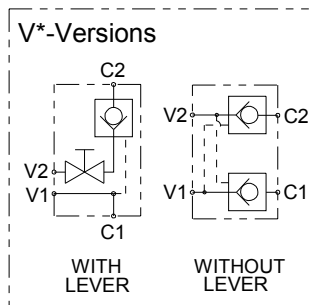
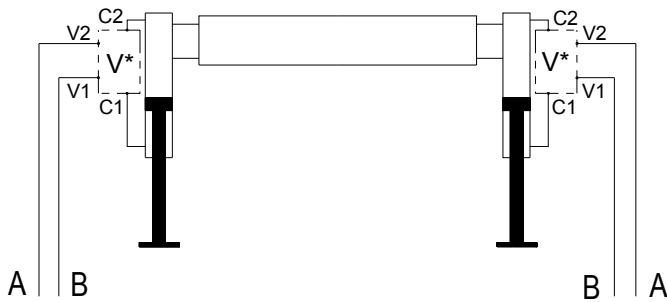
OUTRIGGERS

ANNEXES

E ANNEXES

E.1 HYDRAULIC SCHEMATICS

ADDITIONAL STABILIZERS WITH MANUALLY OPERATED EXTENSIONS (EM)



1040034

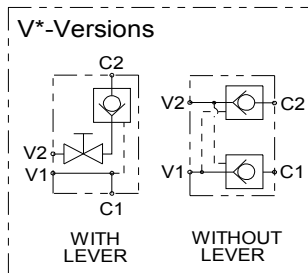
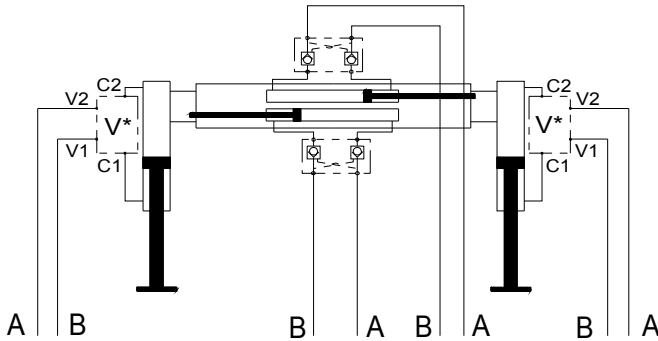


USER MANUAL

OUTRIGGERS

ANNEXES

HYDRAULIC SCHEMATICS ADDITIONAL STABILIZERS WITH HYDRAULICALLY OPERATED EXTENSIONS (EH)



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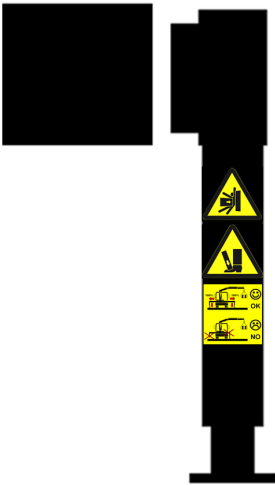


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E.2 WARNING LABELS

	On stabilizer cylinders	Do NOT bang against the stabilisers during the stabilization of the crane
	On stabilizer cylinders	Do not position lower limbs under stabiliser legs during the stabilization of the crane
	On stabilizer cylinders NO CE	Before starting any lifting operations, it's necessary to stabilize the crane correctly: fully extend the beams and deploy the stabilizer feet on the ground

LOCATION OF LABELS



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E.3 GROUND RESISTANCE

The following table shows values of bearing capacity for different soil types: these values are only indicative and can change depending on material, humidity, granulometry, hardness, inclination and other soil properties and conditions.

Bearing capacity of the soils

 SOIL TYPE	BEARING CAPACITY MPa
Natural, clearly virgin soils (mud, peat, marsh soil)	0
Fill soil, artificially unpacked	$0.0 \div 0.1$
Not coherent, but compact soils (fine and medium sand)	0.15
Coarse sand and gravel	0.20
Coherent soils:	
- doughy	0
- soft	0.04
- rigid	0.1
- half-solid	0.2
- solid	0.4
- rock	1.5
- solid rock	3.0

E.4 TROUBLESHOOTING

TROUBLESHOOTING	POSSIBLE CAUSES	CORRECTIVE ACTIONS
The stabilizer leg closes during the crane work	1) The block valve on the stabilizer leg worn, no more seal. 2) Internal seals wear.	1-2) Go to an authorized workshop
Squeaking during extension of beams.	1) Lack of lubrication.	1) Grease the beams



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E.5 EC DECLARATION OF CONFORMITY



DICHIARAZIONE DI CONFORMITA' N.° 4.638 del 04.02.2010

La ditta **TECNODRAULIC s.r.l.**, con sede in via 1° Maggio 32/36 a Isorella (Brescia)

DICHIARA

che la macchina identificata come segue: **TRAVERSA STABILIZZATORE
ADDITIONALE**



È COSTRUITA IN CONFORMITÀ ALLA:

- **DIRETTIVA 2006/42/CE** del Parlamento Europeo e del Consiglio del 17-05-2006 relativa alle macchine;
con riferimento alle norme armonizzate:

UNI EN 12919 - Apparecchi di sollevamento - Gru caricatori

UNI EN ISO 12100-2:2005 - SICUREZZA DEL MACCHINARIO - concetti fondamentali, principi generali di progettazione - parte 1: terminologia di base, metodologia

UNI EN ISO 12100-2:2005 - SICUREZZA DEL MACCHINARIO - concetti fondamentali, principi generali di progettazione - parte 2: principi tecnici

E AUTORIZZA

Ionny Doninelli
Via 1° Maggio, 32/36 - 25010 Isorella (BS)

ALLA COSTITUZIONE DEL FASCICOLO TECNICO

Isorella, li 04.02.2010

Un amministratore
Ionny Doninelli

TECNODRAULIC srl via 1° Maggio, 32/36 - 25010 ISORELLA (BRESCIA) ITALY 01/10
TEL. +39.030.9529199 - FAX +39.030.9529284 - www.tecnodraulic.com - info@tecnodraulic.com
P.IVA / C.F. / Reg. Imp. BS: 02177550981 - Cap. Soc. € 15.300,00 i.v. - REA n. 427275
DIRITTI RISERVATI A TERMINI DI LEGGE - VIETATA LA RIPRODUZIONE E COMUNICAZIONE A TERZI



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E.6 MAINTENANCE REGISTER

OUTRIGGER'S IDENTIFICATION DATA	
Model:	
Serial number:	
Year of manufacturing:	
Installer:	

MAINTENANCE SCHEDULE	SERVICE 10	
Cross-beam mounting elements (welds, bolts)	☐	
Oil leaks	☐	

Inspection and maintenance operations performed by

Authorized Workshop	
Signature	Date

MAINTENANCE SCHEDULE	SERVICE 100	
Cross-beam mounting elements	☐	
Pipes and hoses fittings	☐	
Oil leaks	☐	

Inspection and maintenance operations performed by

Authorized Workshop	
Signature	Date

MAINTENANCE SCHEDULE	SERVICE 500	
Cross-beam mounting elements	☐	
Safety devices	☐	
Greasing of extensions	☐	
Greasing of nipples	☐	

Inspection and maintenance operations performed by

Authorized Workshop	
Signature	Date



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MAINTENANCE SCHEDULE		SERVICE _000
Cross-beam mounting elements	☐	
Safety devices	☐	
Warning labels	☐	
Visible welds	☐	
Chrome plated cylinder rods	☐	
Gap at joints	☐	
General conditions	☐	
Greasing of extensions	☐	
Greasing of nipples	☐	

Inspection and maintenance operations performed by

Authorized Workshop	
Signature	Date

These maintenance operations must be performed after every 1000 operating hours.
Print a new schedule and attach to user manual at each inspection.
The symbols are detailed in C.3.



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E.7 EXTRAORDINARY MAINTENANCE MODULE

OUTRIGGER'S IDENTIFICATION DATA	
Model:	
Serial number:	
Year of manufacturing:	
Installer:	

FAULT DETECTED
INTERVENTION DESCRIPTION
MATERIALS NEEDED
ADDITIONAL NOTES

Inspection and maintenance operations performed by

Authorized Workshop	
Signature	Date



