





Effer has achieved something almost impossible: **combining the lightness** of its cranes **with unique performance power.** Together these two factors offer you **huge advantages**:

- 1. greater structural lightness = **greater power** available for load handling
- 2. greater structural lightness = **greater** residual loading capacity on the truck
- 3. greater structural lightness = crane mounting also on **smaller trucks**

Effer has applied 50 years of experience* in perfecting the construction of its cranes ranging from 2 to 300 txm.

Effer's main solutions which ensure the crane lightness are:

- Sequential exit of extensions
- Use of the best Weldox steel
- A design process with a 50-year background
- Made-in-Italy manufacturing process
- Cylinders fabricated in special materials
- Decagonal structure for the second boom

*In 1977 Effer delivered its first two 110 txm cranes in Russia.

1. LIGHT AND POWERFUL

The structure of Effer cranes



SEQUENTIAL EXIT OF EXTENSIONS

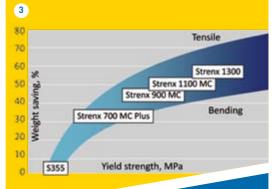
1. A balanced force An efficient hydraulic system fitted to all extension booms controls their exit order. As a result, the first extensions to come out are those sized for higher capacities and the next ones are suitable for lower capacities. The crane performance diagram is thus optimised.

USE OF THE BEST WELDOX STEEL

- 2. A step further. Effer uses high strength Weldox steel for crane structure. This choice improves structure resistance while maintaining the same plates thickness and allowing the most advanced construction solutions.
- 3. The best together with the best. Effer joined the exclusive program "My Inner Strenx" by SSAB, world leader in supplying high-strength steel. Strenx steel is provided after passing a new series of tests on its thicknesses and it has many other features which are necessary to guarantee maximum steel quality.







A DESIGN PROCESS WITH A 50-YEAR BACKGROUND

3. Everything under control. Effer uses the software PRO-ENGINEERING and ANSYS to calculate finite elements (FEM) during its design process. The software combined with many years of experience allow Effer to produce structures which balance perfectly maximum performance, minimum weight and operational safety.

MADE-IN-ITALY MANUFACTURING PROCESS

- 4. The right thickness where needed. Effer manufactures its cranes optimising the thickness of sheets at each point of the structure. This choice requires a great deal of effort be put in design and construction, but it enables significant reduction in crane weight.
- **5. Innovation at work.** Effer's **50-year know-how** in the **high-strength material-welding** sector allows very complex processing to be carried out even in the production of small and medium range cranes.



Effer is a Company certified by:









CYLINDERS FABRICATED IN SPECIAL MATERIALS

6. Beyond the standard. Effer uses special materials with higher specifications compared to common materials available on the market to manufacture its hydraulic cylinders. In this way, you can work with high pressures with a reduced thickness and weight of the cylinder barrel walls

DECAGONAL STRUCTURE FOR THE SECOND BOOM

7. Shape evolution. Effer patented the boom decagonal structure for high-medium range cranes. The decagonal section is obtained from a folded single sheet of metal with single internal and external robotic welding. This patent reduces the thickness and weight of sheet metals.

TIME TO MONEY

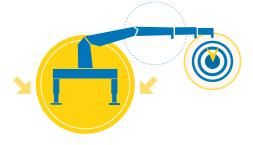
The light weight of Effer's crane allows for a greater residual load on the truck: **greater useful load** = less time = **higher profit**.





NO LIMITS

A lighter structure allows lifting to be **more**powerful. A lighter crane - with the same power
- can be mounted onto a lower range truck.





2. EXTREME STABILISATION

The optional Effer stand, Crosstab and the Effer V-Stab

OPTIONAL BASE

The truck to which the crane is fitted has a frame which must be adequately reinforced and made more rigid to resist to stress. For this reason a counter frame needs to be placed between the crane and truck.

Effer supplies as an optional for some models a high strength steel self-supporting counter frame to apply directly to the truck frame.

OPTIONAL no. 1: Integral extension

As additional optional you can choose the counter frame integral extension made according to the truck model, painted and ready to be mounted.

OPTIONAL no. 2: CroSStab

Another optional item is the CroSStab, an Effer patent which allows you to adjust the stabilisers diagonally in the opposite direction of the casing, extending the maximum stabilisation area to 360°. Using the CroSStab you can have a free working area at the base of the crane to carry out heavy lifting.

OPTIONAL no. 3: V-Stab

For some **60-80 txm range** models an integral pedestal is also available with **stabilisers oriented permanently towards the vehicle cabin**. Exceptional results in front and side stability combined with compactness of the installed crane allow working in confined spaces. Moreover, thanks to V-Stab the cost of any stabilisers in front of the cabin are avoided, and stability at the front is even greater.



OPTIONAL BASE

1. Stability while moving. Cranes equipped with an integral counter frame have a lower centre of gravity thus reducing the overall height of the vehicle and rendering it more stable when moving.



INTEGRAL EXTENSION

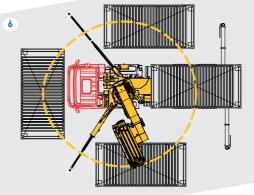
- 2. More loading space. The use of special steels and the painstaking engineering design enable the production of extremely compact counter frames leaving more loading space along the height of the truck.
- **3. More transportable weight.** The optional base and integral extension have an **optimal weight/ rigidity ratio** and therefore allowing greater **loading capacities**.
- **4. Customisation.** Effer provides the **complete** frame for any type of truck.



CroSStab

- 5. 360° Stability. With the CroSStab solution the diagonal positioning of the stabilisers allows the crane to work at 100% performance in all 360° of rotation (*).
- **6.** Large loads near the crane. Using the stabilisers adjusted diagonally you can handle large and heavy loads near the base of the crane.
- 7. Front loading. The crosstab system allows you to achieve better results at lower costs compared to most alternative solutions to front load lifting, allowing you to work in a much wider front area.





8. Rotating System. Thanks to this solution, the stabiliser can be oriented in multiple positions on the side of the truck, obtaining **great flexibility** in crane positioning and the ability to operate where others stop.

(*) In the limited area between the stabilisers diagonals you can have a little drop in performance according to the type of truck. Effer provides feasibility studies upon demand.





V-STAB

- **9. Important angles.** With the Crosstab solution, the shape of the integrated base with stabilisers allows an above dumper-truck operating area of as much as 243°: a much higher range than traditional solutions (+35% of the full load).
- **10.** No space limit. Thanks to the configuration of the fully re-closable stabilisers, it is possible to work in the tightest of spaces moving even large loads near the truck.
- 11. Free to move. The height of the complete vehicle, crane and equipment, remains under 4 meters for standard trucks.
- **12. Reaching where others cannot.** V-Stab allows you to move the load at a distance **even greater than 15 meters** compared to traditional stabilisation, with maximum boom reach.
- **13. Combined solutions.** Effer is able to realize custom stabilisations, such as **the XV stabilisation.**



TIME TO MONEY

The optional base and full extension allow rapid installation.

Major residual load capacity reduces goods transportation times. Thanks to positioning flexibility, CroSStab reduces truck shifting, saving a lot of time.



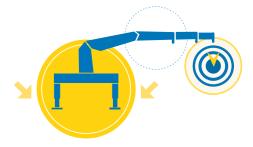
LONG LASTING

The CroSStab and V-Stab systems can be easily installed on a second truck, once the first has ended its working life, maintaining their value over time.



NO LIMITS

Working at 360° with maximum performance, Effer cranes allow you to **perform works in extreme conditions**, which are impossible to perform using conventional stabilisation systems.



EASY WORK

Effer offers stabilisation solutions for confined spaces while maintaining excellent performance of its cranes.





In the design stage of a truck-mounted crane, the crucial element in providing exceptional solutions is the **second boom** and its junction with its relative extensions.

Infact these components help to define crane performance in terms of **boom length**, working speed, lifting capacity and stress-resistance.

As a result of the experience of Effer designers the following exceptional production and technical solutions have been made possible:

- Boom section
- Lateral coupling
- Extension jacks: Fastening by means of spring and advanced attachment
- Symmetrical lay-out of extension jacks
- Bronze side adjustment pads
- Large and multiple-folded hydraulic pipes
- High Speed Limitation and Pro.Dec system
- Extensions come out in sequence

3. STRONGER, FURTHER

The second boom and Effer extensions



BOOM SECTION

- 1. Maximum rigidity. The second Effer boom is available in versions having up to 9 extensions. The structure has a decagonal or hexagonal geometrical section, according to the crane dimensions, to ensure maximum rigidity.
- 2. All in one piece. Moreover, the boom and extensions are manufactured using a single sheet of metal folded in various points with one internal and external robotic welding.

LATERAL COUPLING

- **3. Maximum length. The second boom is coupled to the first boom laterally,** not linearly. In this way you can achieve a very long outreach.
- **4. Interior force.** The support structure is conceived as a **honeycomb** with internal reinforcements. This solution ensures maximum working reliability and **maximum performance** of the crane even **in extreme working conditions**.



EXTENSION JACKS: FASTENING BY MEANS OF SPRING AND ADVANCED ATTACHMENT

- 5. Easy to disassemble. Effer has patented a new spring fastening for the extension jacks. As there are no retaining screws, the jack can be disassembled very easily without requiring specific tools even after years of use.
- **6. Always straight.** Effer has designed **a very advanced attachment** for its extension jacks. In this way **they are not affected by** boom bending. The seals wear out less **and last longer** as they move inside a straight cylinder.

SYMMETRICAL LAY-OUT OF EXTENSION JACKS

7. Perfect balance. The jacks are arranged symmetrically in relation to the boom line.

Maximum balancing and perfect balance of extensions during output and return manoeuvres are thus attained.





18 **- 1**9



BRONZE SIDE ADJUSTMENT

8. Adjust in time. Effer uses external or fixed internal bronze adjustable pads to ensure maximum crane boom linearity over time. This valuable material is more resistant than synthetic materials which are less effective and long-lasting if employed for the same purposes

PADS



LARGE AND MULTIPLE-FOLDED **HYDRAULIC PIPES**

9. Flexibility. Effer's jack hydraulic system is made up of tubes which are multiple-folded so as to reduce torsion strain and provide more elasticity. Oil leaks and pipe breakages are thus avoided.

10. The right capacity. The large pipe diameter reduces pressure and temperature of the hydraulic fluid so avoiding power dissipation while working as well as allowing a high working speed right from the first manoeuvres also in cold climates.

HIGH SPEED AND PRO.DEC SYSTEM

11. Unbeatable speed. Effer's experience has created HSS - High Speed System, included in all but some lighter models. The system, which uses a regeneration valve, makes the extensions open **more quickly** as it recovers the oil which would otherwise go into the tank.

12. Safe load. Effer patented the Pro.Dec -Progressive Deceleration system which consists of end of stroke hydraulic shock absorbers inside the extension jacks. With the Pro.Dec system the transfer from one extension jack to the next takes place at a reduced speed, for both opening and closure. The system reduces load oscillation, making work safer and more efficient.

OUTPUT IN SEQUENCE

13. Sequence valves. In the the light range cranes Effer uses hydraulic valves connected to the extension jacks enabling the extensions to come out regularly and in sequence. This means a lighter boom structure allowing you to take advantage of its greater power to handle loads.

14. The right size Each extension jack is sized according to the extension to which it is connected. The right power for each extension is thus ensured and the **sequential extension** manoeuvres are made easier.





TIME TO MONEY

The High Speed System allows you to save up to 50% of your time each time an extension is extended. The extensions coming out in sequence enable the crane weight to be reduced, and preserve greater lifting power and greater loading capacity for transport, reducing working time.



SAFETY

The Pro.Dec system, **controlling inward and outward boom extensions**, makes load handling safer



SURGICAL PRECISION

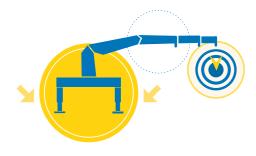
The Pro.Dec braking system gives exceptional stability to the load handled by the crane.

The bronze adjustable pads ensure maximum manoeuvre precision, reducing the mechanical backlash of the boom elements.



NO LIMITS

The special boom section and lay-out of the extension jacks allow the crane to be longer at the top compared to other truck-mounted cranes. Its sequential extension allow the crane to have greater lifting capacity.



LONG LASTING

Since the booms and extensions are made with a single welding the boom is made more resistant to strain over time. The jack attachment on springs allows easy maintenance even after many years. The jack advanced attachment reduces strain and wear on seals. The presence of hydraulic pipes with multiple bends helps preserve maximum reliability over time even in the case of mechanical backlash of the various components. The bronze side adjustable pads last longer.





4. IMMEDIATELY OPERATIVE

Wind&Drive system and Effer winch

Today 70% of medium-large cranes are used with a winch. With **Wind & Drive**, the pulleys in which the winch cable moves are integrated into the crane structure. All operations needed to use the winch are thus eliminated: **switching from "crane with hook" to "crane with winch" is immediate**, **quicker and easier**, with **better results in less time**.

The features of the Wind & Drive system and Effer winch are as follows:

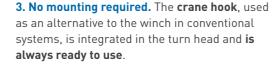
- System integration of components
- Contrast the "arrow effect"
- Winch load control with PROGRESS 2.0
- Exclusion of the winch via remote control
- High quality components



COMPONENTS INTEGRATED INTO THE SYSTEM

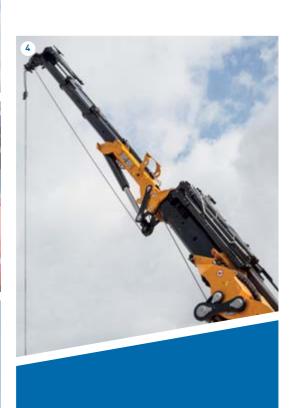
1. All in place. With the Wind&Drive system, the winch always stays attached in the same **position** under the second boom. In this way, it is not necessary to move it before closing the crane in rest position.

2. Total integration. The turn head on the joint, hook and weight of the cable tensioner are completely incorporated in the system, also with the crane folded.



CONTRAST THE ARROW EFFECT

extended.





4. Less tension. The Wind&Drive system keeps the cable very close to the crane booms, contrasting the typical "arrow effect" of the structure. This way the alignment between **the** booms is improved and the cable lifespan is



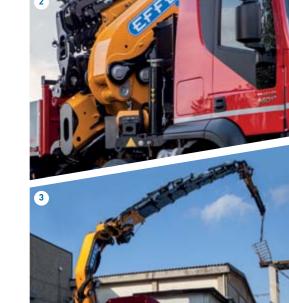
5. Maximum precision. PROGRESS 2.0 electronic control system allows you to control the load of the crane winch, displaying its load values from the **remote control** and making every movement easy and safe.

HIGH SPEED CABLE MOVEMENT

6. Even faster. Hydraulic and electronic systems controlling the winch allow the cable to reach a **high moving speed**, up to 58 metres/minute.







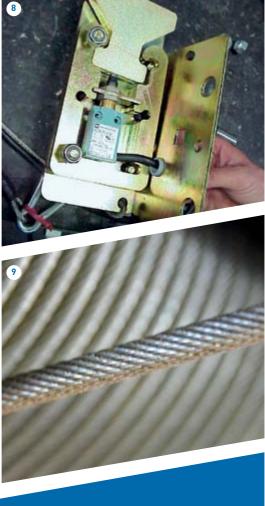
EXCLUSION OF THE WINCH VIA REMOTE CONTROL

7. Top safety. The electronic control system allows you to exclude the use of the winch using remote control preventing accidental manoeuvres and increasing operator safety.

HIGH QUALITY COMPONENTS

- 8. Component protection. The winch electronic components like the end of stroke system are located in protected positions, to avoid accidental impact.
- 9. Strong cables. Effer uses anti twist galvanised and greased steel cables to ensure maximum performance under every working condition and maximum durability over time.





TIME TO MONEY

The integration of the Wind & Drive and winch in the crane booms allows you to be **immediately operational without the need to mount components** at the beginning of the operating stages. It also allows you **to fold the crane quickly** at the end of the job.



EASY WORK

When working with the winch you can handle heavy loads using the fixed hook without needing to disassemble and re-assemble the components, thus avoiding difficult operations. Millimetric movements allow you to place the load rapidly and extremely precisely.



SURGICAL PRECISION

The Wind & Drive technology and PROGRESS 2.0 electronic control make **millimetric movements of the winch hook possible**, achieving maximum precision.



LONG LASTING

The use of anti twist cables and the reduction of the arrow effect **decrease the wear of components**, extending their lifespan. Protection of the winch electronic parts reduces damage, allowing you to save in terms of maintenance.



SAFETY

The possibility to exclude the use of the winch via the remote control **eliminates one of the main sources of accidental damage** when using truckmounted cranes.





Effer uses two rotation systems to ensure maximum customisation of its cranes: the rack system and the ball-bearing system.

Effer **Rack system** ensures a **crane rotation angle exceeding 360°**, that is one of the widest in its category.

On the other hand, the **ball-bearing system** allows the crane **to rotate without limits**.

Effer uses the following technical solutions in the rack system:

- Mechanical solutions to reduce friction
- Gears of reduced dimensions
- Backlash recovery adjusters
- Greasing in one point
- Variability of the dead point

In the double-line ball-bearing system Effer presents further solutions and features to obtain the best results:

- Uninterrupted rotation
- Rotation speed and power control system
- External gear motor
- Leak-tight seals between the bearing rings
- High torque, long wear fasteners

5. THE BEST ROTATION SYSTEM FOR EVERY NEED

Effer rack and bearing systems



RACK SYSTEM

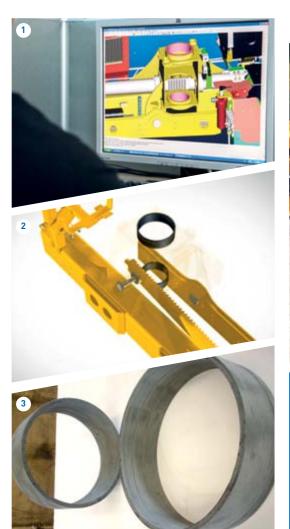
MECHANICAL SOLUTIONS TO REDUCE FRICTION

- 1. Position of the guides. The lower and upper guides of the crane column are at the widest possible vertical distance to ensure its maximum stability and minimum power loss.
- **2. Rack position.** The position of the rack between the guides **decreases column bending** and therefore its friction with the guides.

3. Opposing thrusts. The rack is located on the opposite side of the crane boom. In this way **it opposes column bending**, contributes to the reduction of backlash and **reduces power loss** as a result of friction between the column and guides.

GEARS OF REDUCED DIMENSIONS

4. Over 360°. Effer rack rotation system has **gears of reduced dimensions**, thanks to the use of special materials. This allows you to obtain **rotation angles** of more than 360°, **much wider than average**.





BACKLASH RECOVERY ADJUSTERS

5. No more backlash. Effer rack rotation system makes use of **an adjuster contrasting mechanical backlash** between column and rack over time.

GREASING IN ONE POINT

6. All together. Effer designed the rack rotation system so that all the base greasing points are close **to make maintenance operations easier**.

VARIABILITY OF THE DEAD POINT

7. Versatility. The rack system can be adjusted to vary the position of the dead point in the event of a second installation on a new truck.





SLEWING BEARING SYSTEM

UNINTERRUPTED ROTATION

8. Free turning. Effer rotation bearings system allows the **crane to rotate freely**. To transmit oil and electrical current from the base to the moveable part, Effer makes use of **an innovative** and reliable rotary distribution system, which does not limit the crane's manoeuvres in any way.

ROTATION SPEED AND POWER CONTROL SYSTEM

9. Rotation under control. Effer uses gear motors with various reduction stages. The operator can thereby adjust the crane rotation speed, and check load movement on the hook extremely safely and precisely.



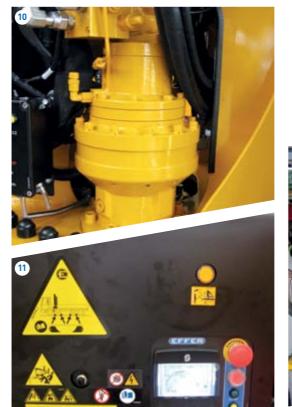
- 10. Very fast, very slow. The various reduction stages of the engine RPM allow **maximum** operating power even at minimum rotation
- **11. Strong in every sense.** The Effer system ensures constant rotation power in any boom working position in relation to the truck.

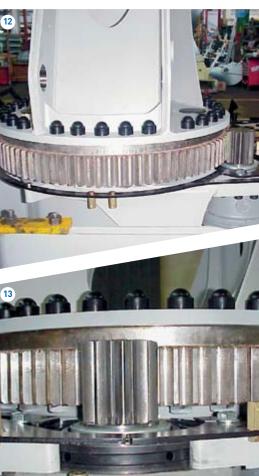




EXTERNAL GEAR MOTOR

- 12. Push with all your might. The external gear motor does not have dimension problems like the internal gear motor. For a medium sized crane, this solution allows you to use high power motors without any space requirement problems.
- 13. Rules of play. You can adjust the external gear motor position in relation to the slewing ring to reduce bearing/pinion play, using ordinary tools.







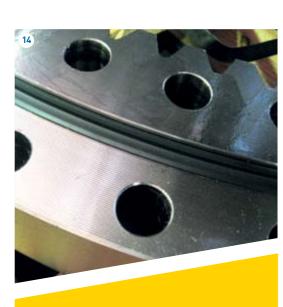
BEARING FASTENING

15. Total fastening. All Effer slewing bearings are fastened by means of **high resistance screws** tightened with **a dynamometric wrench**.

16. Slipping softly. Effer rotation bearing uses two circles of ball bearings **to reduce rotation friction to a minimum**.

LEAK-TIGHT SEALS

14. Protection from the outside. Effer crane rotation bearing is equipped with a leak-tight seal between the rotary rings, to prevent water and dust entering the tracks.





SURGICAL PRECISION

The assembly of the mechanical, hydraulic and electronic systems of Effer cranes manages rotation movements with **extreme precision**.



LONG LASTING

Effer rotation systems have a **low friction index** and reduce the wear of components over time. The play adjusters allow rotation systems to be kept **efficient over time**. **Variability of the dead point in the rack system** allows the crane to be re-installed on a different truck with different space requirements. The seals applied to the rotation bearing protect it from water and dust **extending its durability over time**.



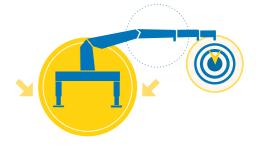
SAFETY

Effer solutions for the two rotation systems ensure a precise monitoring of movements over the entire working area of the crane for maximum operator and load safety.



NO LIMITS

Effer friction control systems allow you to take advantage of the **overall power of the hydraulic crane-rotation system** with above-average performance.





The hydraulic system activates all crane movements. The crane ease of use, its long durability, its speed in carrying out manoeuvres and working precision all depend on the painstaking design process.

For its hydraulic system, Effer chose to adopt special solutions to achieve an excellent result:

- Hydraulic system flow control
- Hydraulic system power control
- Large diameter hydraulic piping
- Hydraulic fittings with front O-rings
- Heat exchanger with high cooling capacity
- The best hydraulic seals on the market
- Protection of check valves
- Clogging indicators for oil filters
- Hook speed control with PROGRESS 2.0
- Biodegradable oil

6. SPEED, PRECISION, EFFECTIVENESS

Effer hydraulic system



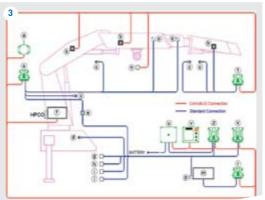
HYDRAULIC SYSTEM FLOW CONTROL

- 1. Large distributor. Effer uses hydraulic distributors in all its range which can control large amounts of oil to perform various manoeuvres at the same time without any loss of power.
- 2. Simultaneous manoeuvres. Thanks to the Flow Sharing system the oil flow is optimised for each simultaneous movement required by the operator. In this way and even if two hydraulic pumps are installed, Effer fits only one distributor to control the crane and its equipment eliminating the loss of power issue in simultaneous movements.

HYDRAULIC SYSTEM POWER CONTROL

- 3. Compensate the power. Effer fitted a hydraulic flow control system equipped with internal compensators, to maintain the right power and speed for all movements also using different crane functions.
- 4. Progressive speed. The use of the latest hydraulic valve allow you to control all crane movements with gradual and progressive speed variations.











LARGE DIAMETER HYDRAULIC PIPING

5. Large pipes. Effer applies large rigid and flexible piping to the cranes. The considerable dimension of the pipes diameter reduces the pressure and temperature of the hydraulic fluid avoiding power dissipation. Moreover, a pipe with a greater diameter allows a high working speed right from the first manoeuvres in cold climates. In hot climates it helps to maintain an adequate temperature inside the system.

HYDRAULIC FITTINGS WITH FRONT O-RINGS

6. Strong seal. To maximize the **pressure-tightness in the pipes' joint points**, Effer exclusively uses fittings with **hydraulic seals like front O-rings**, which are usually used for more heavy works (e.g.: construction equipment).

SPEED, PRECISION, EFFECTIVENESS Effer hydraulic system



HEAT EXCHANGER WITH HIGH COOLING CAPACITY

- **7. Cold is better.** Effer fits a heat exchanger sized according to the most difficult working conditions in the majority of its range. In this
- Oil maintains medium-low temperatures, even in particularly warm environments;
- Oil preserves its physical-chemical properties longer;
- Components and seals are exposed to **less** wear.



THE BEST HYDRAULIC SEALS ON THE MARKET

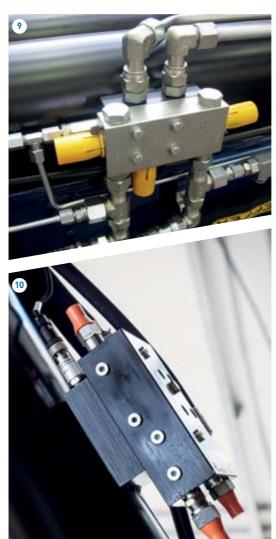
8. Seals. All seals used in Effer cranes' hydraulic system are **the best** in their category **and are easy to find on the market**.

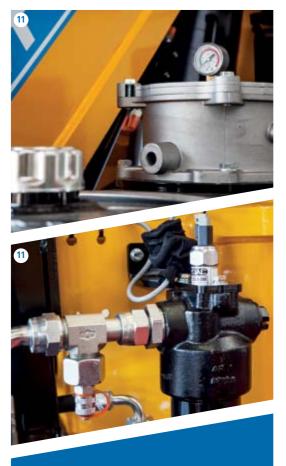
PROTECTION OF CHECK VALVES

- **9. Gradual movements.** The check valves on Effer cranes have also the purpose of **eliminating pressure peaks** caused by sudden load movements and that of **performing very gradual and precise movements**.
- **10. Protected components.** The valves are applied to cylinders by means of flanges which ensure they are **just marginally exposed to accidental impacts** and their maximum working safety.

CLOGGING INDICATORS FOR OIL FILTERS

11. Clean at all times. Effer hydraulic system filters are fitted with sensors indicating if they are clogged. Maintenance can therefore be scheduled and damages to components caused by using dirty oil are avoided.





HOOK SPEED CONTROL WITH PROGRESS 2.0

12. Controlled speed. To ensure maximum safety, Effer integrates PROGRESS 2.0 electronic control system in the hydraulic system. The system controls the maximum working speed of the crane hook optimising it according to booms position, load applied and truck stability.



13. Think green. Effer hydraulic system, without requiring replacement of components, is compatible with many types of biodegradable oils present on the market, while keeping maximum effectiveness during operation and respecting the environment*.

*ask for the technical authorisation of Effer to check the suitability of the oil chosen.





TIME TO MONEY

Large hydraulic pipes allow for **maximum working power and speed right from the first manoeuvres** even in cold climates.



EASY WORK

All seals used by Effer inside of the cylinders are top of the range and supplied by the major world manufacturers.



SURGICAL PRECISION

The synergy between the hydraulic system and PROGRESS 2.0 allows you to easily give the **most** suitable speed to the crane hook, according to the type of manoeuvre. Effer cranes' check valves allow you to obtain very gradual and precise movements.



LONG LASTING

The large heat exchanger allows the oil temperature to be maintained on medium-low values: Oil can therefore preserve its characteristics longer, exposing seals to less wear. The movement check valve applied to the cylinders by means of flanges can withstand accidental impacts. The filters' clogging indicator allows you to prevent damages caused by the use of not perfectly filtered oil.



SAFETY

The synergy with PROGRESS 2.0 prevents all sudden crane movements, **improving the safety of people and that of the load**.



NO LIMITS

The use of an individual distributor and a compensated proportional control system allows Effer cranes to use **maximum hydraulic power in every circumstance**. Effer uses hydraulic fittings with front 0-rings for **maximum seal of joints**.





7. EVERYTHING UNDER CONTROL, ALWAYS

PROGRESS 2.0 and DMU 3000 Plus electronic control systems

Work done using Effer cranes is made exceptionally easy and safe thanks to high technology electronic control systems*. Based on the various crane types, Effer offers two different solutions: DMU 3000 PLUS and PROGRESS 2.0.

The benefits derived from both systems can be grouped in three areas:

- System structure
- Crane control tools
- Effects on crane operation

* on some crane models belonging to the medium-small range, the movement control system is solely achieved using hydraulic components.



TECHNICAL POSSIBILITIES OF DMU 3000 PLUS

SYSTEM STRUCTURE

- 1. Safety over time. DMU 3000 PLUS is a simple and highly reliable electronic system, which allows you to work with the crane in full safety preventing possibly dangerous manoeuvres.
- **2. No damage.** Electronic components and system sensors are located in protected positions to **avoid accidental damages**.
- **3.** All in one. DMU 3000 PLUS is a system which besides crane functions, controls **other truck electronic functions as well** (e.g.: switching on/ off the truck directly form the remote control).
- **4. Against water.** The entire system has a degree of protection of **IP 67**, water and weather resistant.





CRANE CONTROL TOOLS

- **5. Dual zone.** DMU 3000 PLUS allows **two different work areas of the crane to be controlled** based on truck stability.
- **6. 360° Stability.** DMU 3000 PLUS can be also applied to cranes with CrossStab base. It optimises various lifting performances depending on the positioning of the rotary stabiliser.
- 7. Display. With DMU 3000 PLUS you can display the main crane performance elements either on the panel, on the machine or on the remote control.
- 8. Maintenance. DMU 3000 PLUS memorises crane operating cycles and advices you on scheduled maintenance. The crane's state of use, and so its residual life cycle, is calculated by registering the times during which the crane is turned on and / or being handled.









EVERYTHING UNDER CONTROL, ALWAYS PROGRESS 2.0 and DMU 3000 Plus electronic control systems







EFFECTS ON CRANE OPERATION

- **9. Remote Control.** DMU 3000 PLUS allows the operator to monitor the main crane performances from **the remote control display**.
- **10. Maximum limit.** DMU 3000 PLUS **automatically controls the crane's speed** as the maximum permitted loading values are reached.

11. Does not fall. The exclusive **Effer truck anti-rollover system** combined with DMU 3000 PLUS, allows you to operate with the crane **safely**.

TECHNICAL POSSIBILITIES 13



SYSTEM STRUCTURE

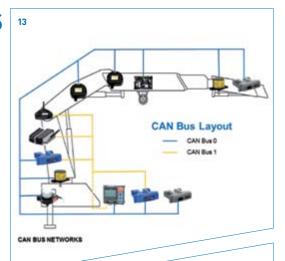
12. A new era. PROGRESS 2.0 is the new electronic management system that Effer designed for its cranes. It allows the operator to use Effer cranes at peak performance, In great safety and comfort, even when carrying out very difficult operations.

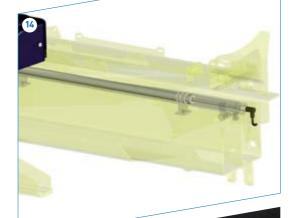
13. CAN-BUS Double network. All electronic components are connected together with two CAN-BUS networks that work simultaneously and independently, to allow maximum electronic-system reliability. The first network connects the electronic control units with the radio control and the distributor. The second network connects all motion and position sensors. The CAN-BUS dual network technology means faster fault detection.

14. Zero damage. The connections are **highly resistant to mechanical stress**, thanks to the co-moulded connectors. The electronic components and system sensors are **located in protected positions**, to prevent accidental damage.

15. Everything in order. With PROGRESS 2.0 the different wirings are arranged with multiple-socket jointing, grouping the CAN-BUS connections at precise easily accessible places. All cables can be connected / disconnected individually. So **maintenance is made fast and simple.**









- **16. Waterproof.** The entire system has a protection index of IP 67, water resistant and weatherproof. The connections are watertight thanks to the comoulded connectors.
- 17. Total control. You can also manage by remote control other electronic truck-related features (eg. Switching on and switching off the engine). PROGRESS 2.0 also allows you to integrate other operating functions: front stabilisers, truck-body sides, towing winch, platform, bucket, etc.
- **18.** Let there be light! PROGRESS 2.0 allows the activation of any headlights placed on the crane booms by means of the remote control.
- 19. Safety standard. PROGRESS 2.0 guarantees a standard safety performance level C, and for aerial basket, upon request, safety performance level D EN 280:2001.



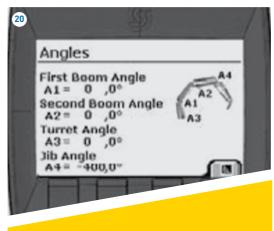




CRANE CONTROL TOOLS

- **20.** Air geometries. PROGRESS 2.0 allows you to display and keep under control at the crane base and on the remote control display the geometrical arrangement of the crane booms.
- 21. Working areas. PROGRESS 2.0 manages 4 different crane working areas: front, back, left and right, providing maximum load capacity according to the truck's stability and the actual extension of its stabilisers.
- **22.** Maximum load-lifting power. Load capacity calculated by Progress 2.0 is always maximized, since the extension of the stabilisers is perfectly measured through magnetic or sensor encoders.
- 23. Performance in sight. The operator always has the state of the crane, vehicle and the load under control.
- **24.** Lift the maximum. PROGRESS 2.0 automatically calculates the maximum lifting capacity based on the actual extension of the stabilisers.





CRANE CONTROL TOOLS

- **25.** No oversight. PROGRESS 2.0 stores the crane operating cycles and faults detected, and indicates scheduled maintenance operations.
- 26. Numbers add up. PROGRESS 2.0 constantly counts the time during which the crane is on and the time during which the crane is moved. Moreover, it stores all movements carried out at maximum performance, thus allowing you to calculate the use status of the crane and therefore its residual lifespan.
- **27. Remote help.** When needed, **remote assistance** can be activated by the dealer or headquarters.
- **28.** Move your feet. PROGRESS 2.0 manages stabiliser positioning through radio control, so that the operator can work safely.
- 29. "Intelligent" Heat exchanger. The PROGRESS 2.0 system controls oil temperature. The heat exchanger is constantly working to reduce energy consumption and oil overheating, thus extending service life of all components.

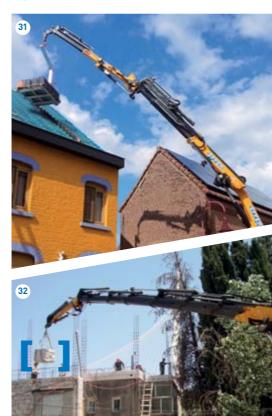


30. New functions to work better. The PROGRESS 2.0 operating system comes with a very high storage capacity. This allows you to add new functions, such as "virtual shield" or "assisted winch control (AWC)".



EFFECTS ON CRANE OPERATION

- **31. What a performance!** PROGRESS 2.0 allows the operator to **monitor all crane performances** from inside the machine and from the remote control display.
- **32. Maximum Speed Limitation (MSL).** Thanks to this, PROGRESS 2.0 system manages crane hook speed, with simultaneous movements of the booms. In this way **load swings are reduced** and any shocks to the crane structure avoided.
- **33.** So many things together. PROGRESS 2.0 manages FLOW SHARING, which allows the oil hydraulic system to carry out a high number of operations simultaneously.
- **34.** Limit achieved. PROGRESS 2.0 indicates to the operator that the maximum operating limits have been reached, being these geometrical or load limits, by displaying words that are easy to understand on the machine and on the remote control.
- **35.** "Mini Jib" EC. With PROGRESS 2.0, even the second jib ("minijib") is EC certifiable and therefore usable at 100% of its performance capabilities.





EFFECTS ON CRANE OPERATION

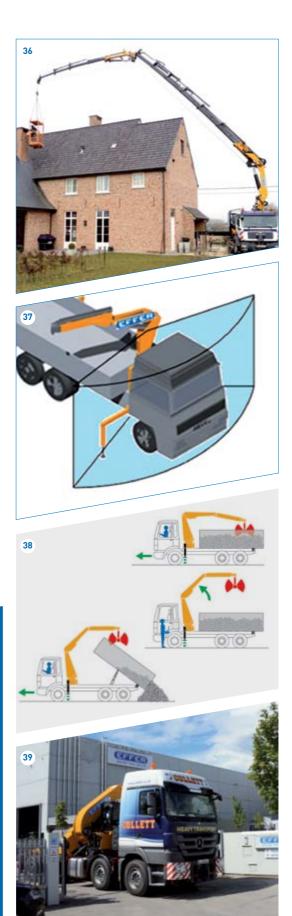
36. "ASSISTED WINCH CONTROL" Recovery rope during boom section extension/retraction.

With this feature, the winch rope moves along together with the extensions. The system maintains a constant distance from the boom load. In this way, the operator works faster and does not need to make correction manoeuvres. Load swing is drastically reduced allowing totally safe operating.

37. "Virtual shield" - cabin-collision avoidance.

PROGRESS 2.0 allows you to set a protected workspace around the cabin. In the proximity of this area, **crane movements are automatically stopped** to protect the cabin, thus eliminating the risk of accidental impact. You can also set a prohibited working area **to protect the manned workstation.**

- **38.** Unload immediately without wasting time. It is possible to handle the crane without stabilising it, to guickly download from dumper.
- **39. Recovery System.** In case of anomalies, PROGRESS 2.0 allows to park the crane in emergency mode. This way you can quickly take the crane to the nearest Effer service point.



TIME TO MONEY

The crane electronic control systems – in particular PROGRESS 2.0 - allow you to activate more movements at the same time in any working condition, reducing movement times considerably. The remote control of additional functions, electronic or hydraulic, of the crane or truck, allows you to save time during daily work.



EASY WORK

Effer electronic control systems give you the chance to **constantly** see all operating data of the crane on the remote control display, to handle loads easily and safely. With PROGRESS 2.0 you can **handle the crane also without stabilising.**



SURGICAL PRECISION

DMU 3000 PLUS and PROGRESS 2.0 constantly process the geometric shape and the values of the loads applied to the crane hook. The crane takes up the speed and acceleration that are more suitable to obtain maximum movement precision.



LONG LASTING

Electronic components are located in protected positions to **reduce the risk of accidental damages to minimum**. The **IP 67** guarantees long durability. Effer electronic control systems **store crane operating cycles**, and **general operation time** during the use of the crane, and allow you to calculate **its degree of use**, indicating **scheduled maintenance operations**.



SAFETY

The control of the load applied to the crane, the **FLOW SHARING** system and the **MAX SPEED LIMITATION** system ensure **maximum safety of people and that of the load** even when crane performance is to the maximum. The **reaching of the crane maximum working limits** are indicated on the display by means of indicator lights. Effer electronic control systems control **the progressive speed variation of the crane movements according to the load** applied and its position.



NO LIMITS

The display and control of the various work areas, performances and geometric arrangement of the crane on the display, allow you to use the crane to the maximum of its performance. When needed, PROGRESS 2.0 allows the activation of remote assistance by the dealer or headquarters using the internet.





LIGHT CATALOG



Maximum lifting capacity in tonnes/metre.



Lifted load (kg) with all extensions back and resulting outreach (m).



Lifted load (kg) with all extensions out and resulting outreach (m).



Crane minimum weight (kg) in standard version.



PTT minimum of the Vehicle for optimal mounting (tons).



Attainable height (m) with the longest jib, at maximum verticality.













				•	•			
	0.5	25	2,89	825 @ 3,51	425 @ 6,31	500	3,5	
	35	35	2,84	790 @ 3,59	310 @ 7,80	535	3,5	
<i>F</i>								
1 3								
AL .							l	
12.0	65	15	6,34	1700 @ 3,73	1190 @ 5,33	790	6,5	
	05	25	6,15	1610 @ 3,82	835 @ 7,10	870	6,5	
一种一种一种一种一种一种一种一种一种一种一种一种一种一种一种一种一种一种一种		35	5,88	1505 @ 3,91	600 @ 8,89	1070	6,5	
All Market and All Andrews		45	5,74	1435 @ 4,00	445 @ 10,65	1135	6,5	
				1	,		1	1
	80	15	7,48	1950 @ 3,82	1380 @ 5,42	915	9	
15		25	7,17	1835 @ 3,91	960 @ 7,21	995	9	
-		35	6,96	1740 @ 4,00	700 @ 9,00	1070	9	
Later Marie		45	6,71	1640 @ 4,09	520 @ 10,79	1135	9	
		10	0.40	0500 @ 0.04	4750 @ 5 00	4000	10	
The same of the sa	100	15	9,16	2500 @ 3,64	_	1080	10	
		25	8,86	2380 @ 3,72	•	1165	10	47.5
A STATE OF THE STA		35	8,61	2260 @ 3,81	935 @ 8,77	1245	10	17,5
64		45	8,44	2165 @ 3,90	720 @ 10,56	1315	10	
Day A.		25	11,58	2665 @ 4,35	1365 @ 8,17	1580	13	17
	130	35	11,23	2540 @ 4,42	995 @ 10,25	1710	13	20
No. 14-14-		45	10,84	2415 @ 4,49	730 @ 12,37	1835	13	21,5
The state of the s		55	10,43	2320 @ 4,55	515 @ 14,60	1950	13	2.,0
		- 00	10,10	1020 @ 1,00	0.0 @ 1.,00			
THE PROPERTY OF THE PARTY OF TH								
			l.	1			l .	1
	125	25	11,83	2590 @ 4,57	1360 @ 8,39	1655	13	12
	135	35	11,23	2420 @ 4,64	950 @ 10,47	1785	13	14
		45	11,04		715 @ 12,59	1910	13	16
		55	10,77	2250 @ 4,79	540 @ 14,82	2020	13	
		65	10,31	2120 @ 4,86	360 @ 16,79	2105	13	
					· · · · · · · · · · · · · · · · · · ·			
	145	25	12,75	2790 @ 4,56	1470 @ 8,39	1655	13	12
	143	35	12,23	2635 @ 4,64	1045 @ 10,47	1795	13	14
TO THE WAY		45	11,89	2525 @ 4,72	780 @ 12,59	1920	13	16
		55	11,73	2450 @ 4,79	610 @ 14,82	2030	13	
		65	11,28	2320 @ 4,86	420 @ 16,79	2115	13	
ALL DESCRIPTION OF THE PARTY OF			1		1	1		1



















85

30,94 6350 @ 4,87 930 @ 21,37











EFFER

				IN Max	OUT Max	5 kg	EGVW	A HMax
			txm	kg @ m	kg @ m	min	t	m
(a)	4.50	25	13,86	3250 @ 4,27	1680 @ 8,09	1750	15	
	150	35	13,58		1250 @ 10,17	1885	15	20,5
THE WAR		45	13,02		925 @ 12,29	2005	15	21,4
34		55	12,79	2850 @ 4,49	680 @ 14,52	2115	15	
Action			· · · · · · · · · · · · · · · · · · ·					
M	4/5	25	14,48	3330 @ 4,35	1735 @ 8,17	1820	15	
	165	35	14,15		1295 @ 10,25	1950	15	19,5
7. 1		45	13,72	3050 @ 4,50	965 @ 12,38	2075	15	23
7		55	13,40	2930 @ 4,57	710 @ 14,60	2185	15	
		65	13,11	2820 @ 4,65	550 @ 16,57	2270	15	
- 95								
Sib.	4	25	15,26	3510 @ 4,35	1835 @ 8,17	1855	15	Τ
	175	35	14,97		1380 @ 10,25	1985	15	21
		45	14,57		1035 @ 12,38	2110	15	23
R		55	14,17	3100 @ 4,57	770 @ 14,60	2220	15	
		65	13,88	2985 @ 4,65	600 @ 16,57	2305	15	
		25	20,92	4910 @ 4.26	2580 @ 8,02	2500	18	
	215	35	20,45		1905 @ 10,21	2645	18	21,5
		45	20,45		1445 @ 12,38	2785	18	25,3
		55	19,61	 	1110 @ 14,57	2915	18	24
		65	19,31	+	865 @ 16,77	3030	18	1
Marian Maria			.0,0.	1110 @ 1,00	000 @ 10,11	3333	0	
			40.00	1000 0 100	0000 0 0 50	0505	10	-
AC	220	25	19,88		2300 @ 8,52	2535	18	20
1		35	18,87		1650 @ 10,70	2700	18	23,8
1		45	18,26		1225 @ 12,88	2835	18	25,7
A CONTRACTOR OF THE PARTY OF TH		5S (C	17,43		925 @ 15,05	2985	18	-
DE LA CONTRACTION DEL CONTRACTION DE LA CONTRACT		6S	17,50	3100 @ 4,63	710 @ 17,23	3115	18	
						I		1
1	225	25	22,12	+	2690 @ 8,07	2835	18	
	223	35	21,71		2030 @ 10,20	2985	18	21
		45	21,02		1480 @ 12,37	3150	18	25,4
4		55	20,56		1105 @ 14,65	3330	18	25,8
A NA		65	20,19	4290 @ 4,71	845 @ 16,95	3445	18	
	250	25	22,47	5200 @ 4,32	2165 @ 8,52	2535	18	20
	230	35	21,47	4880 @ 4,40	1900 @ 10,70	2700	18	23,8
		45	20,95	4680 @ 4,48	1455 @ 12,88	2835	18	25,7
		5S	20,12	4420 @ 4,55	1100 @ 15,05	2985	18	
		65	20,19	4360 @ 4,63	845 @ 17,23	3115	18	

LIGHT CATALOG **EFFER**



34,03

33,33

32,29

35,18

33,23

32.89

40.48

39,83

39,44

38,77

38,00

43,66

43,05

42,62

41,99

41,24

395

75

85

45

55

65

75

85

45

55

75

85





8480 @ 4,10 | 3400 @ 10,09

8120 @ 4,19 | 2600 @ 12,35

7680 @ 4,34 | 1600 @ 16,95

7240 @ 4,46 | 910 @ 21,64

7750 @ 4,54 | 3380 @ 10,33

7630 @ 4,54 | 2630 @ 12,34

7360 @ 4,64 | 2070 @ 14,59

7140 @ 4,73 | 1630 @ 16,85

6880 @ 4,83 | 1270 @ 19,09

6750 @ 4,87 | 1060 @ 21,37

8900 @ 4,55 | 3060 @ 12,33

8550 @ 4,66 | 2380 @ 14,57

8300 @ 4,78 | 1910 @ 16,85

8000 @ 4,84 | 1455 @ 19,17

7620 @ 4,99 | 1090 @ 21,59

9600 @ 4,55 | 3330 @ 12,33 |

9240 @ 4,66 | 2630 @ 14,57

8970 @ 4,78 | 2120 @ 16,85

8670 @ 4,84 | 1640 @ 19,17

8270 @ 4,99 | 1270 @ 21,59





26

26

26

26

26

26

26

26

26

26

5080

5080



25,5

30

25

28

30

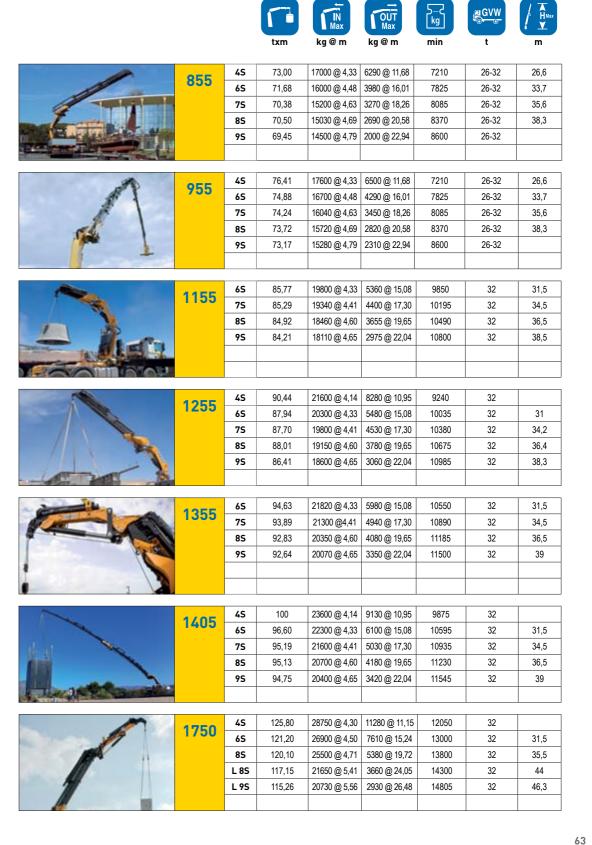
25,3

30,8

33,5

25,3







LIGHT CATALOG KEY





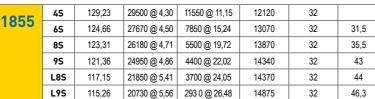








18





2055	45	138,48	32300 @ 4,24	12700 @ 10,90	12880	32	
2055	65	135,40	30500 @ 4,44	8700 @ 14,95	13675	32	31
	85	133,86	28700 @ 4,66	6100 @ 19,40	14435	32	35,2
	95	130,28	27000 @ 4,83	4850 @ 21,79	14975	32	42



2/55	35	198,48	26750 @ 7,42	12600 @ 15,7	40	
2655	45	194,03	25700 @ 7,55	9950 @ 18,63	40	
	65	186,27	23850 @ 7,81	6070 @ 24,49	40	51
	75	183,08	23000 @ 7,96	4740 @ 27,45	40	54



EE	3S STR	232,25	39650 @ 5,53	20700 @ 11,22	40	
55	5S STR	220,27	37000 @ 5,81	13950 @ 15,80	40	



3000	45	262,48	44000 @ 5,70	19300 @ 13,60	40	
3000						

Le configurazioni e le immagini riportati nel depliant sono esemplificativi. Per conoscere l'offerta completa e per maggiori dettagli tecnici, rivolgersi al concessionario EFFER di zona e consultare il sito www.effer.com. I dati indicati possono subire modifiche. Capacità di sollevamento secondo potenza massima della gru. La stabilità dell'autocarro può richiedere il declassamento.

The configurations and figures contained in the brochure are illustrative. For information on the complete offer and for more technical details, ask your EFFER dealer or consult the website www.effer.com. The above data are subject to change. Lifting capacity is based on the maximum lifting power of the crane. The stability of the truck may require a reduction of lifting capacity.



Hexagonal profile booms



Crane width

Crane thickness



Decagonal profile booms



Remote control



Rack rotation



"STAND UP OPERATOR" platform

Jib articulation system above 180°



Rotation with planetary drive and gear motor



CroSStab



Dual gear motor



ETL (Effer Twin Links)



Integral base for compact mounting



Sequence valve



CE-mark



"Data Monitor Unit" Crane electronic control



Lifting moment



Rotation angle



Crane height



Marine option available



"Wind & Drive" Crane foldable with fly-jib without dismounting winch components



Heat exchanger



Remote control with display



Swing-up stabilisers, manually activated



Swing-up stabilisers, hydraulically activated



Stabilisers with manual outlet



Stabilisers with hydraulic outlet



"Grip & Swing" Hook on bearing with cardan

LIGHT CATALOG



ESS - Mini ESS (Effer Stability System)



PROGRESS 2.0



Winch



Switch from DMU 3000 to PROGRESS 2.0



"High Speed System" increased speed of extensions cylinders



"Pro.Dec. System" cylinders with progressive stop at end of stroke



Boom articulation above 180°



"Close-Lift (CL)" Second boom sliding hydraulically



Stabiliser width



PTT min



Symmetrical lay-out of extension jacks 9° extension with internal jack



H Version, basic version for Countries outside the EU, ask Effer sales department for technical details



Crane adjustment and joint for PLE



Remote control with joystick



Remote control for stabilisers



Version C



Load reading on the remote control display



/ Stab







EFFER S.p.A.

Via IV Novembre, 12 | 40061 Minerbio (B0) - Italy Tel. +39 051 4181211 | Fax. +39 051 4181491

S.P. 40 ex Vicinale Accetta Grande | 74010 Statte (TA) – Italy Tel +39 099 4700191 | Fax +39 099 4700189

www.effer.com | info@effer.it

