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General information

CHOICE OF ATTACHMENT: *The application of a forklift attachment comes from the need to improve the performances of the forklift itself. For this reason the choice of the attachment is very important and therefore its technical details, indicated in the present Price List, could be very useful.*

INFORMATION ABOUT THE ORDER: *As to avoid any misunderstanding, for any information about the orders, please refer to our order confirmation.*

REFERENCE: *The reference number indicated in the first column of the tables of the Price List identifies the attachment. The reference number will also be reported in our order confirmation, in our delivery note and in our invoice. It will also be reported, together with the serial number and the main techni-cal details, on the identification plate of the attachment, which is very important for future spare parts orders.*

ATTACHMENT CAPACITY: *It is very important to say that the capacity indicated in the column represents only the structural limit of the attachment. The type of load and the working conditions must be taken into consideration to determinate the most appropriate attachment. The indicated capacity is only referred to the attachment and not to the combination of forklift and attachment. The residual capacity can be worked out with a good approximation through the calculation indicated later, but it must always be confirmed by the manufacturer of the forklift.*

FEM CLASSES: *In this column is indicated the type of mounting provided for every attachment. The hooks are always standard for unified carriages ISO/FEM 1, 2, 3, 4 and 5. At request, with supplement on the price, we can also supply attachments with special hook systems.*

TECHNICAL DATA: *all products are subject to reviews and modifications, as a continual product improvement. A.T.I.B. reserves the right to make such modifications without notice. No modifications are allowed to our products unless agreed in writing with our technical department. Unauthorized modifications can seriously alter the technical properties of the attachments and will cause the immedi-ate lapse of warranty.*

SPARE PARTS: *the use of non original A.T.I.B. spare parts may cause malfunction of the attachment and will cause the immediate lapse of warranty.*

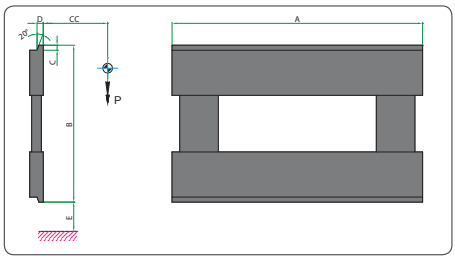
MOUNTING: *Every element required for the mounting of our attachments on the forklift can be pro-vided by us upon request. Consult our chapter about hydraulic kits and options.*

OPTIONALS: *In this section are reported the supplements for the most common options. The possibility to realize special modifications to standard products, must always be verified with our commercial and technical personnel.*

SPECIAL PRODUCTS: *Our technical department can realize special products upon request. Please do not hesitate to contact us!*

Fitting informations

HYDRAULIC KITS: *All the attachments of the present list could require one or more hydraulic kits for functioning. Their quantity is clearly reported in any page of this list for every attachment. If you wish to complete the supply with those hydraulic kits, please consult our chapter 13.*
WORKING PRESSURE: *The maximum working pressure of every attachment is clearly indicated.*
ATTACHMENT HOOKS: *The attachments are delivered with hooks ISO/FEM, the table is reported hereunder. All our attachments are provided with Fem A hooks. Fem B hooks can also be delivered upon request. Eventual special hooks can be realized on demand by providing our technical department with the technical details reported hereunder.*



ISO 2328 FEM	Forklift Capacity	Load Centre	A	B	C	D	E	
	P - Kg	mm	mm	mm	mm	mm	mm	
I	up to 999	400	®	331	13	16	A	76
							B	114
II	1000 to 2500	500	®	407	13	16	A	76
							B	152
III	2501 to 4999	500	®	508	16	21,5	A	76
							B	203
IV	5000 to 8000	600	®	635	19	25,5	A	127
							B	254
V	8001 to 10999	600	®	728	25	34	A	127
							B	257

Solenoid Valve

The solenoid valve is used to direct the oil flow into one of two function, generally when the attachment has three different functions. The first two are operated by the control valve, the solenoid valve operates the third function. E.g. a rotating clamp with sideshift has its own control circuit for clamping (for safety reason), the second one is combined with a solenoid valve, in order to operate either rotation or sideshift.
To supply the solenoid valve the forklift truck must be equipped with a feeding cable that runs from the generator or battery and over the lift mast to the fork carriage. Either a push switch in the ball-head lever or a toggle switch installed in the instrument panel can operate the solenoid valve. Please note that the coil of the solenoid valve must have the same voltage as the control voltage in the forklift truck.

1

Sideshift

Sideshifts are more and more used to aid drivers in operating forklifts easily. A.T.I.B. offers two op-tions:

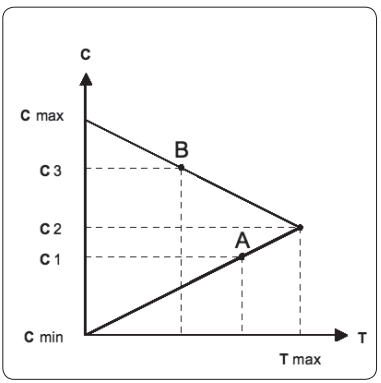
SIDESHIFTING VALVE

This is often used on clamping units as it works with the same cylinders used for the clamping action. The stroke depends on the opening range left. It will be zero when the clamp is totally open or totally closed. ***The stroke available could be larger than that allowed under stability rules (100+100 mm up to 6300 kg and 150+150mm for higher capacities) and could cause side stability problems as well as the premature wear of the mast profiles. You are strongly advised to check its suitability with the forklift manufacturer.*** The obvious advantage lies in the reduction of weight, thickness and lost load centre.

Hence the available residual capacity is higher and manoeuvrability is better due to the arms side movement only, useful in small places. To find out the remaining stroke available with each load, calcu-late the difference between the load width and maximum and minimum opening. The remaining stroke available will be the smallest of the two results.

SEMI-INTEGRAL SIDESHIFT

The semi-integral sideshift uses a separate cylinder for the sideshifting action and has the advantage of a constant side movement whatever the opening range is. Weight, thickness and load centre are increased, though.



T	*Sideshift*
C	*Opening range*
A	*Position before half opening range*
B	*Position after half opening range*

$$A = \frac{(C\ 1 - C\ min)}{2}$$

$$B = \frac{(C\ max - C\ 3)}{2}$$

$$T\ max = \frac{(C\ max - C\ min)}{4}$$

$$C2 = \frac{(C\ max + C\ min)}{2}$$

Residual capacity calculation

(CC mm) + (X mm) =

(Q Kg) x (mm) =

(CG mm) + (X-S mm) =

(P Kg) x (mm) =

(CGC mm) + (SP mm) + (X-S mm) =

(Kg mm) - (Kg mm) =

(Kg mm) : (mm) =

(Qr Kg) (Residual capacity)

Forklift truck **Attachment** **Load**