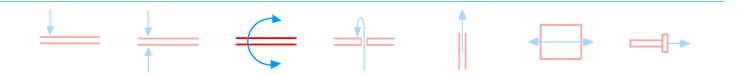




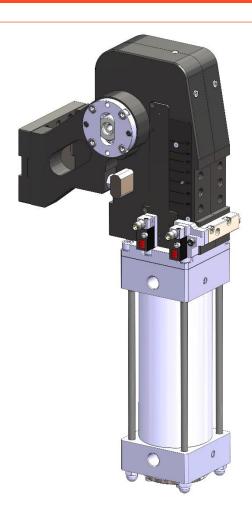
RFM.2/RCM.2 (100-125-160-200)

RFM.2/RCM.2 NEW PIVOT UNITS HYDRAULIC CONTROLLED, WITH OPENING ANGLES EASILY ADJUSTABLE AND SBI LOCK SYSTEM INTEGRATED INTO THE HEADS





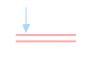
RFM.2/RCM.2 Mains Features



New RFM.2/RCM.2 Mains Features:

- SBI Lock System (brake) integrated into the head (RFM-RF series) (Patented)
- 2. Opening angles easily adjustable (RFM/RCM)
- 3. Sensors kit
- 4. Pneumo-Hydraulic motion control
- 5. External Arms Hard Stop
- 6. Patent, Parts List, Production
- 7. Ordination Codes (RFM/RF RCM/RC)





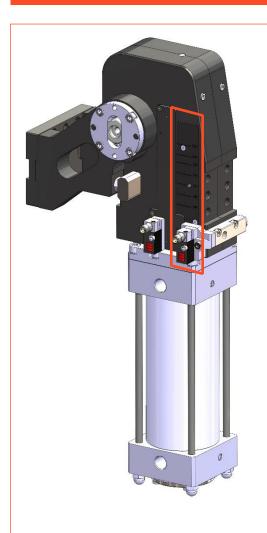










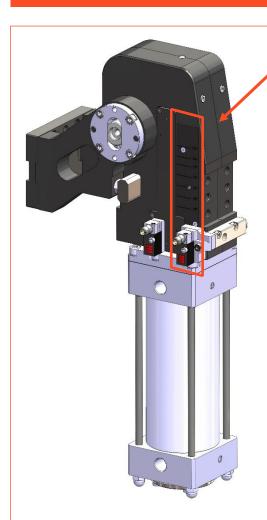


 SBI Lock System integrated into the mechanical head (Brake)
 Pivot Units RFM-RF









RFM Mechanical SBI Lock System integrated into the Head

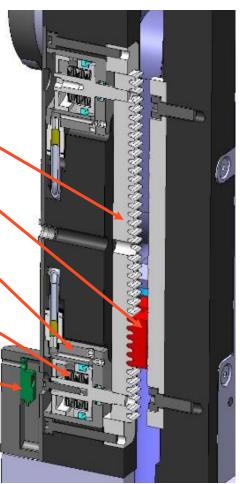
Main Teeth Bar Rack

Opposed Teeth Rack

Single Effect Pneumatic Cylinders

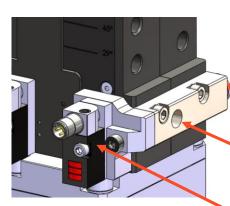
Disc Springs (Bauer)

SBI Lock System Off Inductive Sensor



Advantages:

- Secure and reliable braking (no piston rod lock system)
- Mechanical Teeth Bar Rack locker concept (no Hydraulic oil)
- Reduced arms gap in back position
- Integrated into the head (reduced external unit dimension. Save up to 200mm compared to our competitors)





Double Air Connections for the SBI Lock System

SBI Lock System Inductive Sensor (M12 Connection)







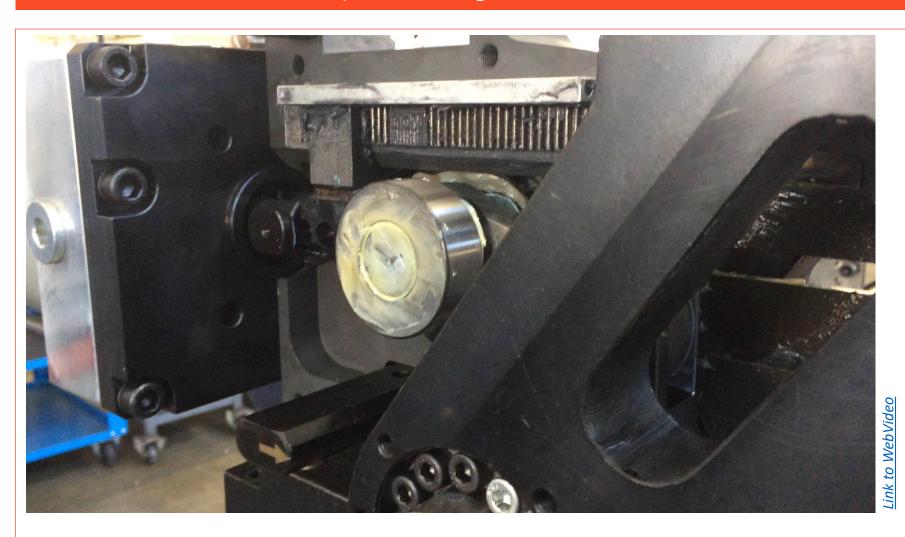




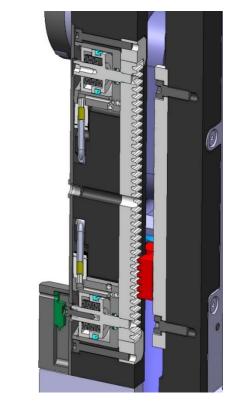








Operating principle of the: Mechanical Teeth Bar Rack Locking System (SBI)







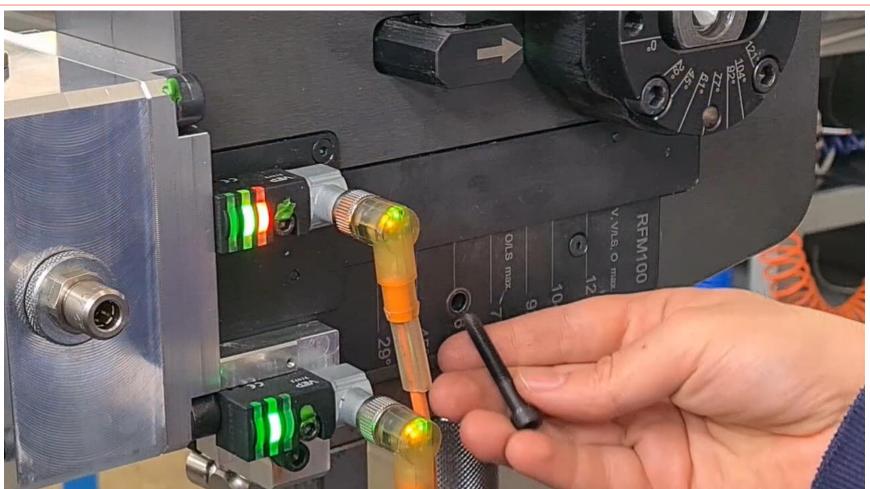






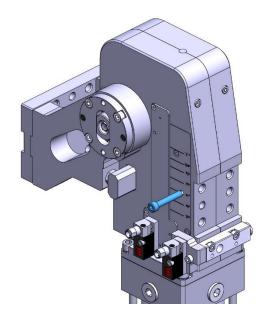






Manual Release of the SBI Lock System (Brake)

Procedure in case of lack of pressure in the pneumatic system or in case of anomaly Needs: Nr.1 M6x40 (D.100) or Nr.1 M8x40 (D.125-160-200)



John Mohlida





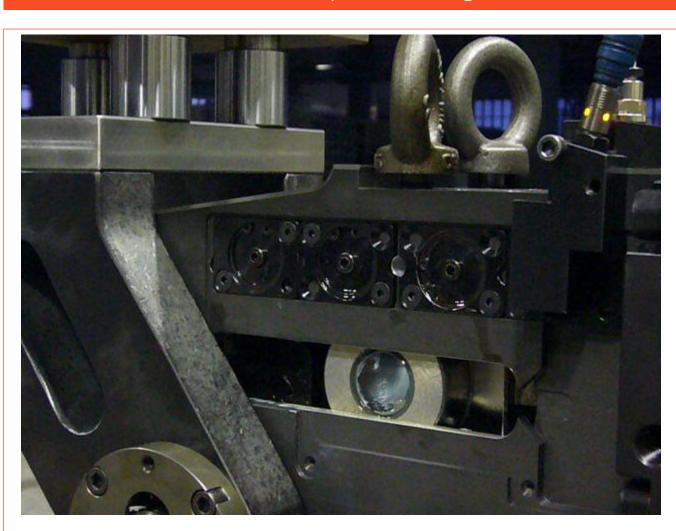










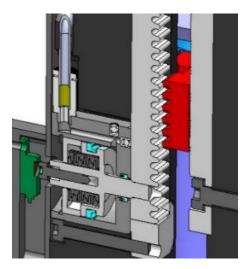


Example of emergency stops with maximum load for the Mechanical Locking System (SBI)

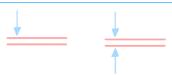
From 10.000 to 25.000 dynamic stops guaranteed at maximum load (B10 value) depending on the size of the Pivot Units

6,000,000 static stop cycles (B10 value) for SBI brake arming/disarming with unit stationary at backward or forward position

«Holding Force» of the rack and pinion SBI system: 55.000N (D.100) 65.000N (D125-160-200)







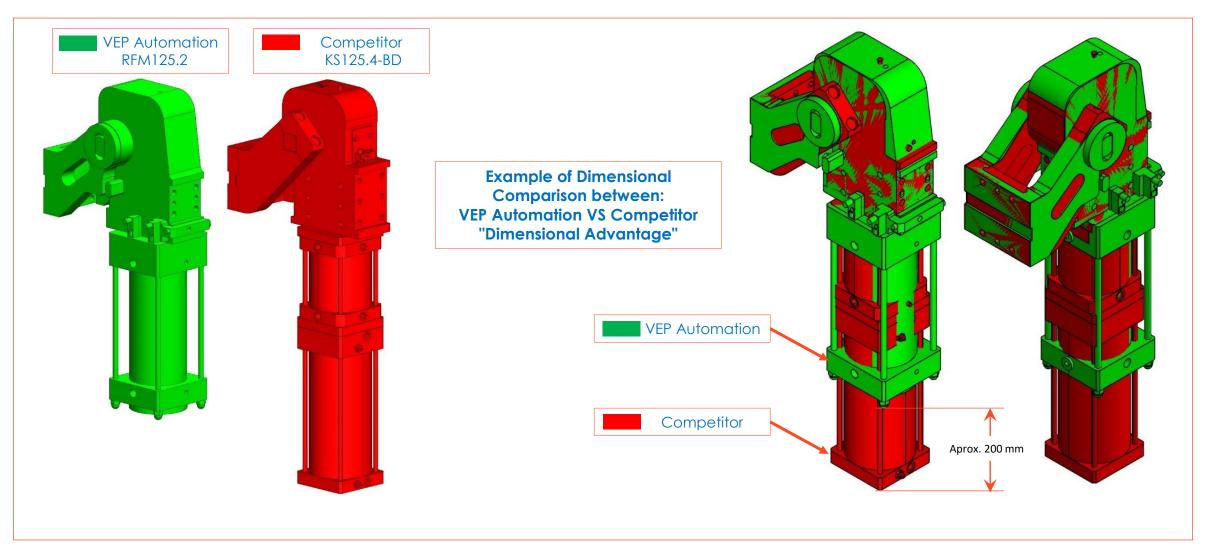






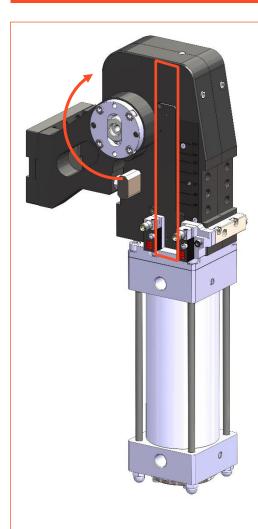








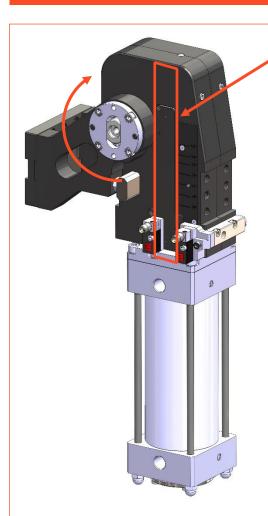




2) Opening angles easily adjustable (RFM/RCM)



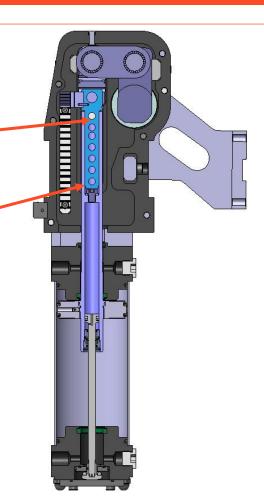


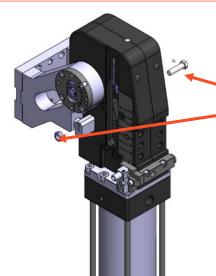


RFM Opening Angles Easily adjustable

> Holes for Opening Angles Set

Telescopic Piston Rod that allows the angle change





Removable Pin and Nut for the Opening Angles Changing

Advantages:

- Reduction of the amount of spare units needed (up to 50-55%).
- Easy re-use of units on different and future applications and projects
- The customer can change the opening angle himself (no additional parts needed)
- Possible adjustment of the opening angle during the set-up phase of the line in order to optimize cycle times or robot passages







Instructions for Opening Angles Changing

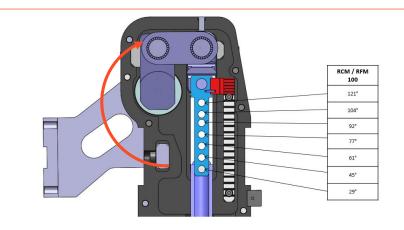
Example of Angle Changing of RFM100.2 From 121° to 45°

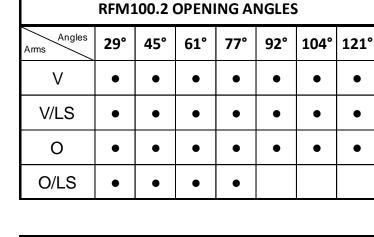
	RFM100.2 OPENING ANGLES														
Angles Arms	29°	45°	61°	77°	92°	104°	121°								
V	•		•	•	•	•									
V/LS	•		•	•	•	•									
0	•	•	•	•	•	•	•								
O/LS	•	•	•	•											

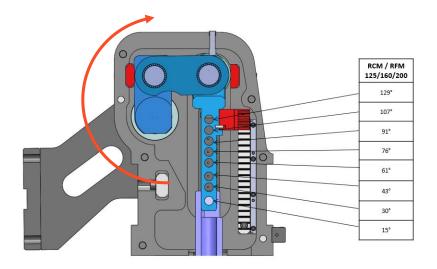
Link to WebVideo





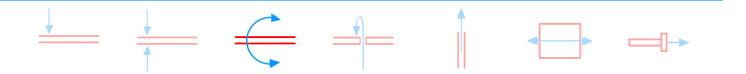






F	RFM125-160-200.2 OPENING ANGLES														
Angles Arms	15°	30°	43°	61°	76°	91°	107°	129°							
V	•	•	•	•	•	•	•	•							
V/LS	•	•	•	•	•	•	•	•							
0	•	•	•	•	•	•	•								
O/LS	•	•	•	•	•										





2. RF Unit additional Opening angles (Fix, Not Adjustable)

In case of the RFM units available angles are not in according to the application designed by the customer, on request, we can provide the RF unit which allows to have a larger number of available opening angles. Herewith below the complete list of the RF opening angles.

Note: The RF unit doesn't have the opening angle easily adjustable. It's fixed as the old GR/RC. The cylinder length of the RF unit is in according to the opening angle as the unit GR/RC.

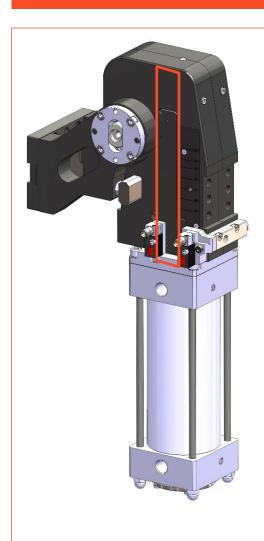
	RF100.2 OPENING ANGLES (Option on request)																													
Angles	15°	18°	22°	25°	29°	33°	37°	41°	45°	49°	53°	57°	61°	65°	69°	73°	77°	81°	85°	89°	92°	96°	100°	104°	108°	113°	117°	121°	127°	133°
V	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
V/LS	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
O/LS	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•												

	RF125-160-200.2 OPENING ANGLES (Options on request)																														
Angles	15°	18°	21°	24°	27°	30°	33°	36°	40°	43°	47°	50°	54°	58°	61°	65°	69°	72°	76°	80°	83°	87°	91°	95°	99°	103°	107°	112°	116°	122°	129°
V	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
V/LS	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
O/LS	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•												





3. Detail of New Sensor Kit (Pivot Positioning)

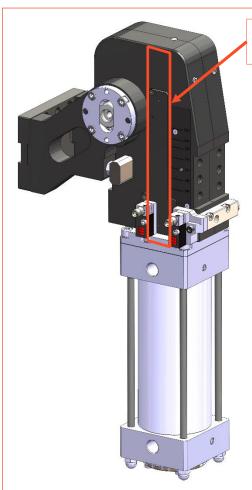


3) Sensor kit (Pivot positioning and SBI Brake system)





3. Detail of New Sensor Kit (Pivot Positioning)



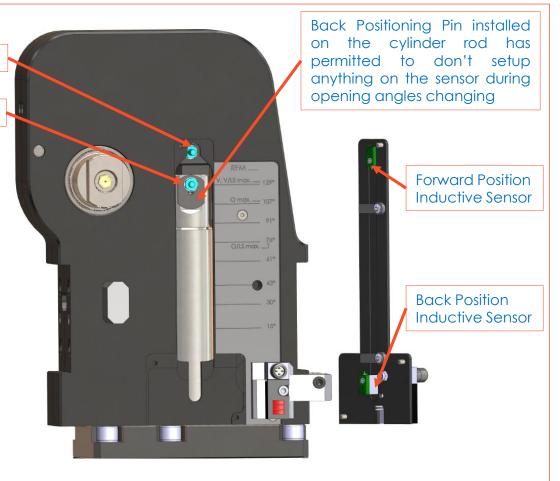
New Sensor Kit (Pivot Positioning)

Forward Positioning Pin

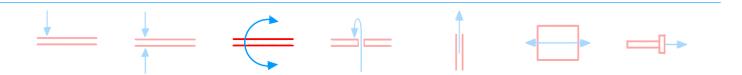
Back Positioning Pin

Advantages:

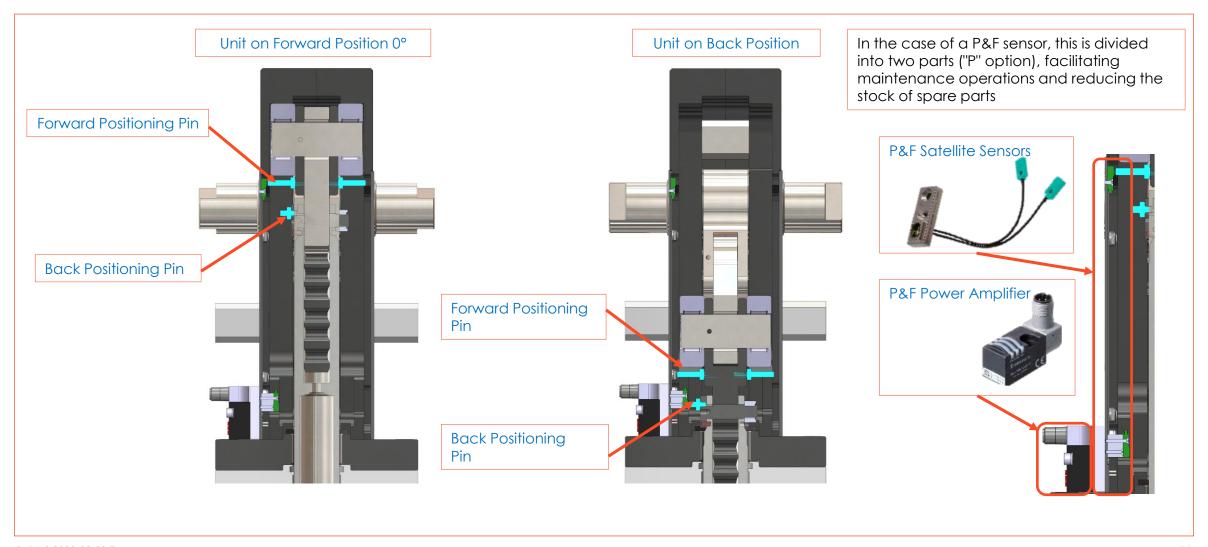
- The sensor kit permit to have more accuracy on the detection of the unit position
- The sensor kit don't need to be setup or adjust when the customer change the opening angles
- The P&F sensors, divided in two parts (Power Amplifier and Satellite Sensors) permit to replace easily and quickly the Power Amplifier part only
- It's reduced the number of spare parts codes (P&F separable sensors, are in common for all opening angle and Power Amplifier may be in common with other products).







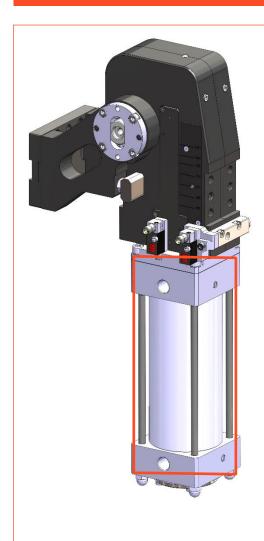
3. Detail of New Sensor Kit (Unit Position)







4. Pneumo-Hydraulic Motion Control

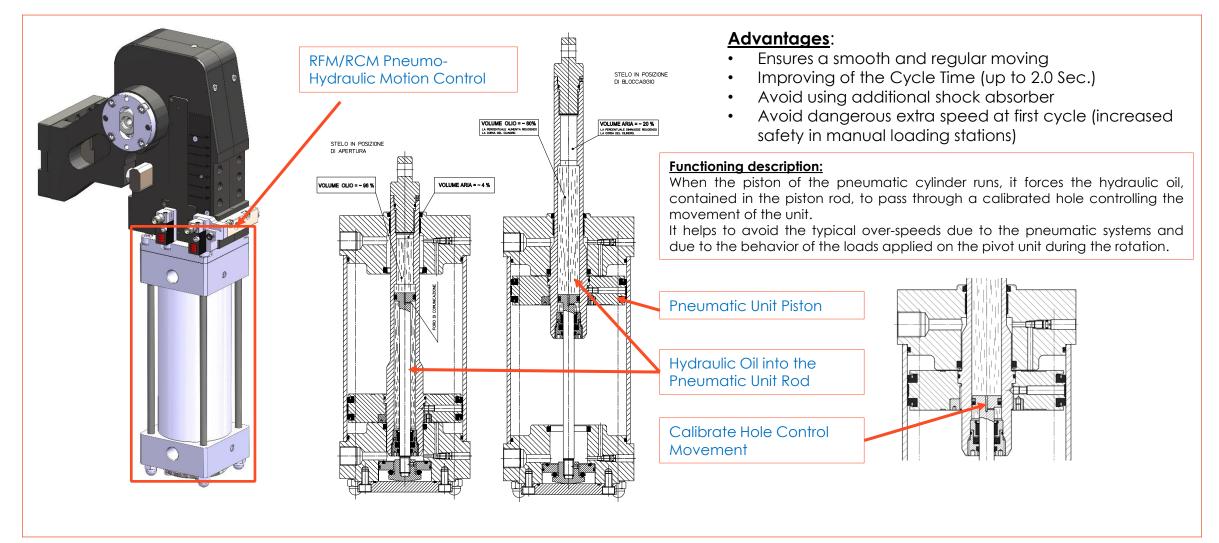


4) Pneumo-Hydraulic Motion Control





4. Pneumo-Hydraulic Motion Control



















4. Pneumo-Hydraulic Motion Control

RFM/RCM WITHOUT Pneumo-Hydraulic motion control

RFM/RCM WITH Pneumo-Hydraulic motion control





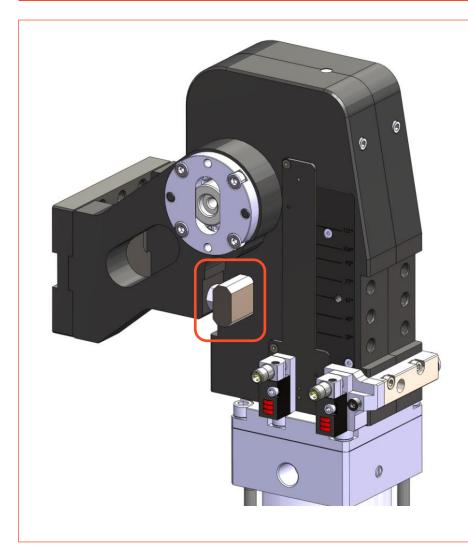
<u>Link to WebVideo</u>

<u>Link to WebVideo</u>





5. External Arms Hard Stop

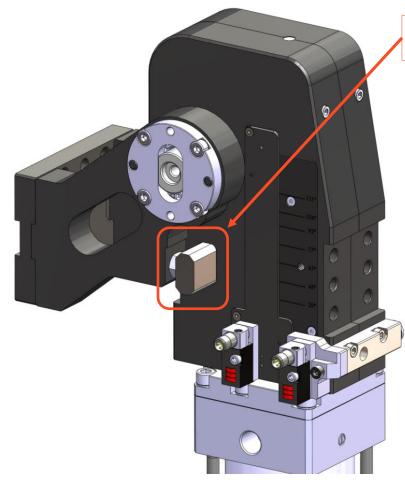


5) External Arms Hard Stop





5. External Arm Hard Stop



RFM External Arms Stop

Advantages:

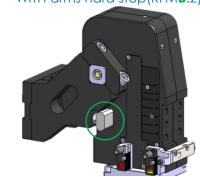
- With the external arms hard stop is being increased the repeatability and accuracy of the arms position
- With the external arms stop it can be easily verified the reached of forward position 0°
- The external arms hard stop are integrated into the heads (no additional external dimensions)
- The external arms hard stop are included into the basical unit price (no additional costs)
- Available several Arms Options in according to Customers specifications

Arm Fix options and External Arms Hard Stop

Assembly of lever arms "square" and WITHOUT arms hard stop (RFM**A**.2)



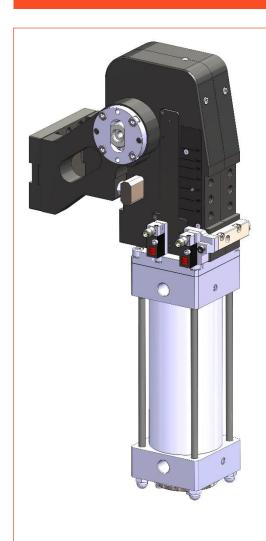
Assembly of lever arms "square" and WITH arms hard stop(RFM**B**.2)







6. Patent, Parts List, Production



6) Patent, Parts List, Production



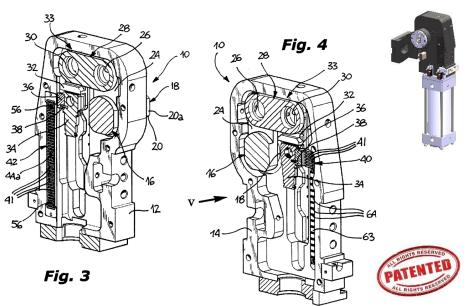


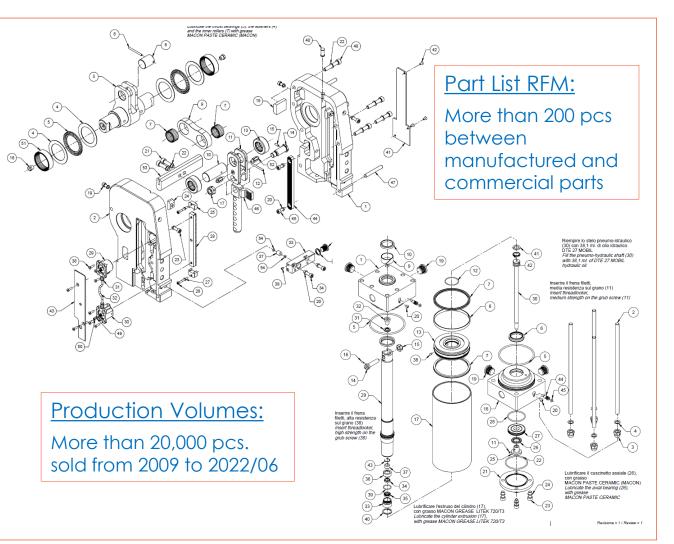
6. Patent, Parts List, Production

(54) Device for stopping the oscillation of the arm of a handling equipment of the swingable lever type

(57) A handling equipment of the swingable lever type comprises an arm rotationally connected to a shaft (18) that extends from a body (10) of the equipment, and a toggle mechanism (33) interposed between the shaft (18) and one end of an axially slidable stem (34). The sliding of the stem (34) is controlled by pressurized fluid control means so as to cause an angular oscillation of the arm between two predetermined end-of-stroke angular positions. The equipment further comprises a de-

vice for stopping the oscillation of the arm, including a first engagement member (42, 40) fixed to the body (10) and a second engagement member (40) movable together with the stem (the 34), which members (40, 42) have respective reciprocally facing active surfaces adapted to reach a frontal engagement condition as a result of the transverse movement of one of them with respect to the stem (34), when a pressure drop of the fluid fed to said control means takes place, with the aim of stopping the movement of the stem (34).





177 319 A1

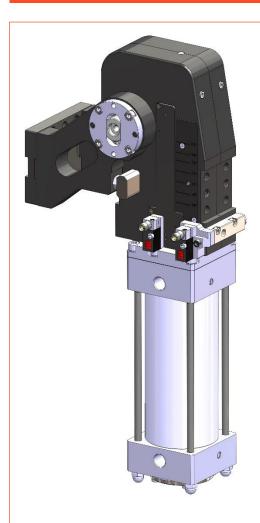
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7. Code to Order (RFM/RF – RCM/RC)



7) Code to Order RFM/RF e RCM/RC

RFM: With Lock System and Opening Angle Changeable

RF: With Lock System and Opening Angle Fixed

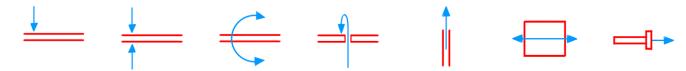
RCM: Without Lock System and with Opening Angle Changeable

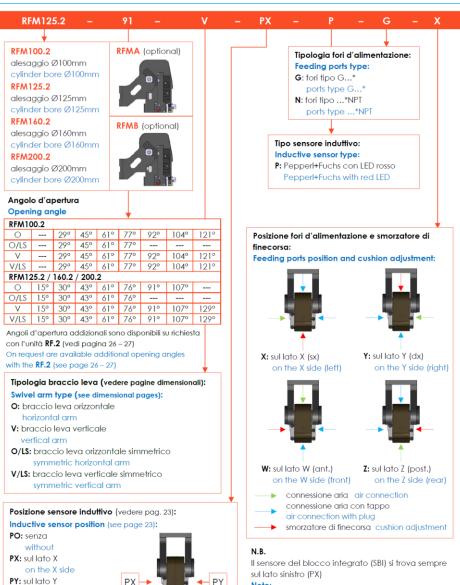
RC: Without Lock System and with Opening Angle Fixed



on the Y side

Clamping technologies made in Italy since 1966





SBI lock system sensor is always on the left side (PX)

VEPAUTOMATION

Clamping technologies made in Italy since 1966



Ribaltatore pneumo-idraulico RFM/RF.2 Pneumo-hydraulic swivel unit RFM/RF.2

Caratteristiche principali:

- Blocco (SBI) integrato nella meccanica (brevettato)
- Sistema di cambio angolo facilitato (RFM)
- Versione (RF) con angolo d'apertura fisso
- Fianchetti in alluminio
- Dispositivo a ginocchiera interno
- Bracci leva in acciaio ed arresto bracci leva esterno
- 2 possibilità di staffaggio (fronte e retro)
- 6 fori di connessione (GAS o NPT)
- 2 smorzatori di finecorsa pneumatici regolabili
- Nuovo finecorsa induttivo (connessione M12x1)
- Controllo idraulico della movimentazione integrato nel cilindro pn.

Main characteristics:

- Lock system (SBI) integrated into the head (patented)
- Opening angle easily adjustable (RFM)
- (RF) version with fixed opening angle
- Aluminum flanks
- Toggle action mechanism
- Steel arms and external arms stop
- 2 mounting areas (front and back)
- 6 feeding ports (GAS or NPT)
- 2 end strokes pneumatic cushioning adjustable
- New inductive proximity switch (connection M12x1
- Hydraulic motion control integrated into pneumatic cylinder



PDF



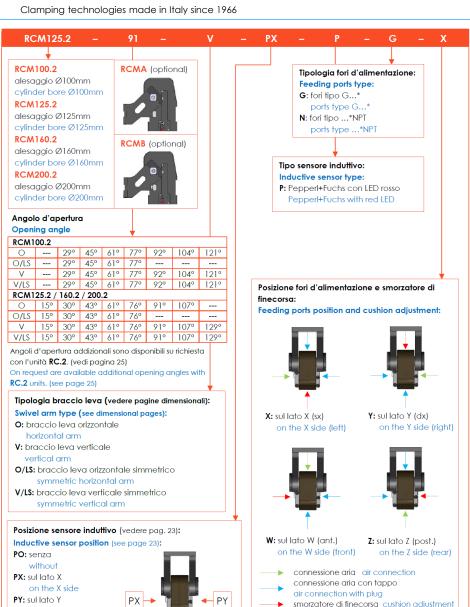


3D Step

Index



on the Y side





Clamping technologies made in Italy since 1966



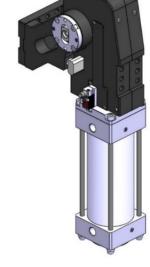
Ribaltatore pneumo-idraulico RCM/RC.2 Pneumo-hydraulic swivel unit RCM/RC.2

Caratteristiche principali:

- Sistema di cambio angolo facilitato (RCM)
- Versione (RC) con angolo d'apertura fisso
- Controllo idraulico della movimentazione integrato nel cilindro pneumatico
- Fianchetti in alluminio
- Dispositivo a ginocchiera interno
- Bracci leva in acciaio
- Arresto bracci leva esterno
- 2 possibilità di staffaggio (fronte e retro)
- Alesaggio del cilindro pneumatico: 100/125/160/200 mm
- 6 fori di connessione (GAS o NPT)
- 2 smorzatori di finecorsa pneumatici regolabili
- Nuovo finecorsa induttivo (connessione M12x1)

Main characteristics:

- Opening angle easily adjustable (RCM)
- (RC) version with fixed opening angle
- Hydraulic motion control integrated into the pneumatic cylinder
- Aluminum flanks
- Toggle action mechanism
- Steel arms
- External arms stop
- 2 mounting areas (front and back)
- 4 Pneumatic cylinder bore: 100/125/160/200 mm
- 6 feeding ports (GAS or NPT)
- 2 end strokes pneumatic cushioning adjustable
- Inductive proximity switch (connection M12x1)





PDF





3D Step

Index

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