



# Nordhydraulic

HYDAC INTERNATIONAL

## Directional control valve RMB 202



Solutions that power your visions

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**Data sheet**

**Directional control valve / RMB 202**

## RMB 202

### Use the Nordhydraulic expertise

Our skilled and experienced design and application engineers are at your disposal, helping you to specify the valve configuration that meet your application requirements.

RMB 202 is a 2-sectional mono block valve, especially designed for front-end loaders with system pressures up 300 bar and flows up to 90 l/min.

The design includes that the valve is prepared for quick connecting couplings, ports positioned for easy piping and easy assembling of wires for cable control.

The valve is designed as an open centre valve but can also be used in load sensing systems both of the type with fixed displacement pumps as well as in systems with variable pumps.

The load sensing is made possible by the "Semi Load Sensing" system that is patented by Nordhydraulic AB.

The valve features gentle operating characteristics, low pressure drops and a minimal internal leakage. The spools are designed for low and uniform manoeuvre forces which is important especially together with cable control.

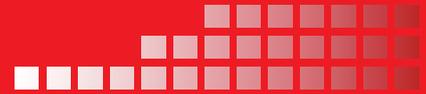


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### Data sheet

This data sheet presents a selection of standard components and how to specify these in a valve assembly according to your application requirements. For further information on RMB 202 and available components, please contact Nordhydraulic



# Technical data

## Pressures / flow

Max. system pressure ..... 300 bar (30 MPa)  
 Max continuous return line pressure..... 20 bar (2,0 MPa)  
 Max recommended flow ..... 90 l/min  
 Rated flow..... 50 l/min

### Further data

Spool stroke ..... -6+6/+12mm  
 Control forces on spool; spring centred 140N nom  
 Detend in ..... >300N  
 Detend out..... <100N

## Further data

Recommended contamination level at normal duty:  
 equal to or better than 18/14 as per ISO 4406.

Hydraulic fluid viscosity range at continuous operation:  
 10-400 mm<sup>2</sup>/s(cSt). Higher viscosity allowed at start up.

Mineral oil and synthetic oil based on mineral oil are  
 recommended.

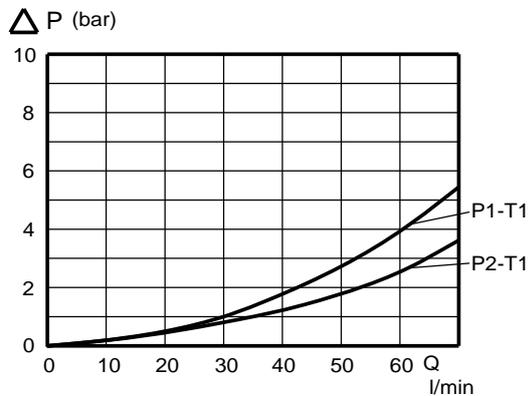
Max. hydraulic fluid temperature range for continuous  
 operation: -15°C - + 80°C.

Spool leakage at 100 bar, 32 cSt and 40°C: < 13 cm<sup>3</sup>/min.

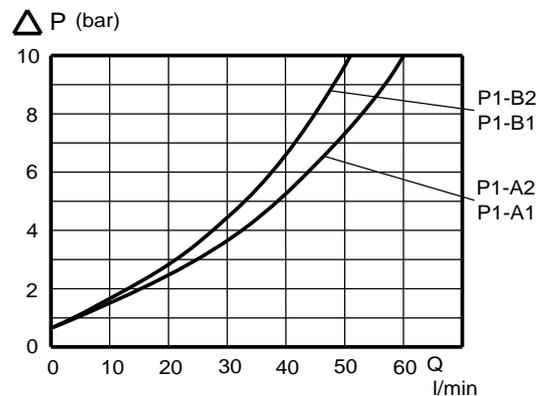
## Internal pressure drop

Temperature for all  
 graphs + 50°C and  
 viscosity = 32 cSt

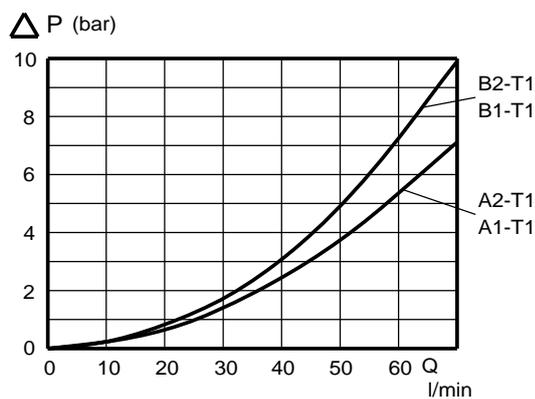
### P - T



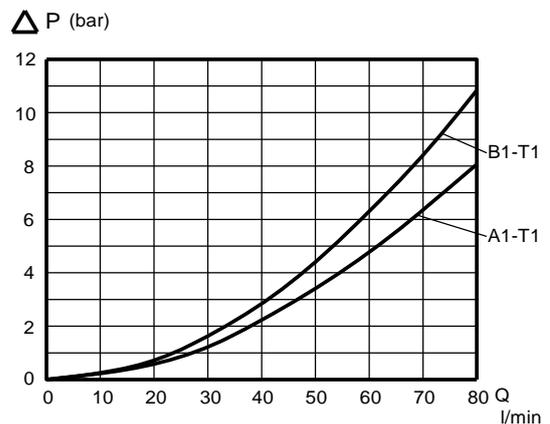
### P - A/B

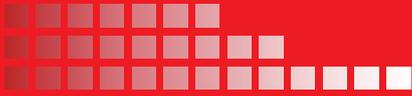


### A/B - T

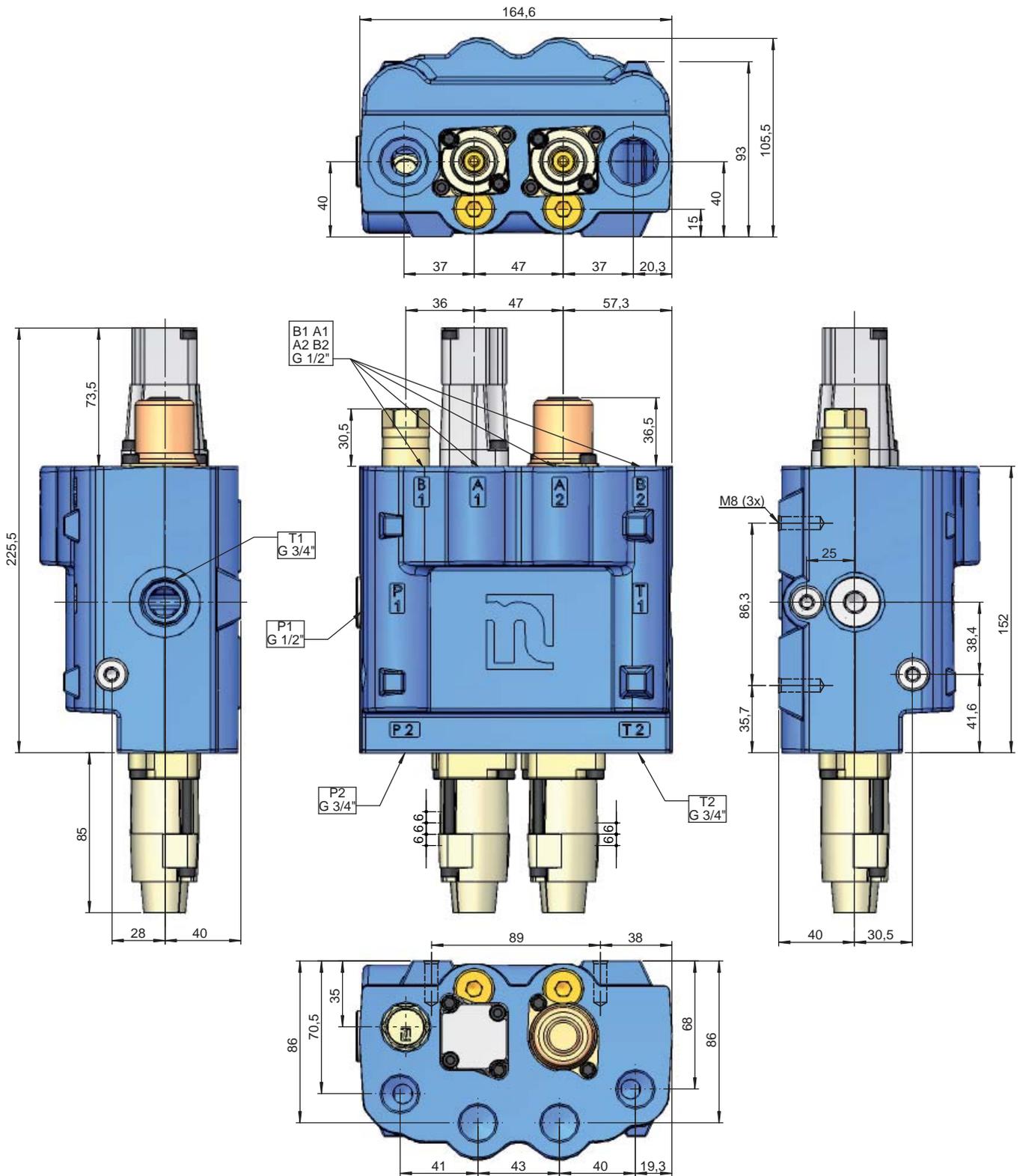


### A/B - T Float position



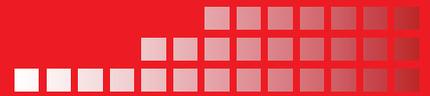


# Technical data - Dimensions, weight



Weights, complete valve:

RMB 202 13,3 kg



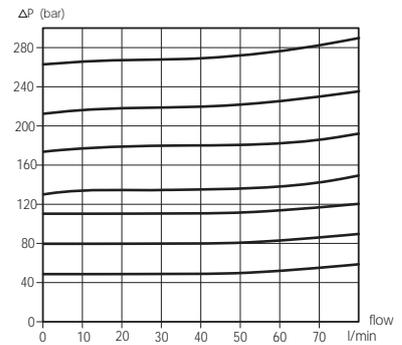
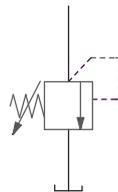
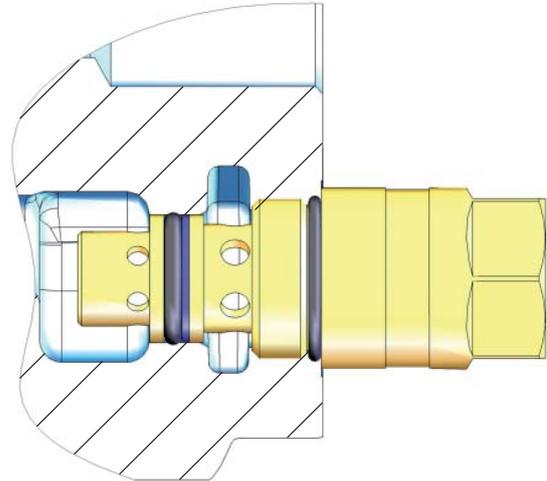
# Main relief valve

## Main relief valve TBD160

The TBD160 is a differential area, direct acting relief valve for the main circuit. It is adjustable.

Setting range: 35 - 300 bar (3,5 - 30,0 MPa).

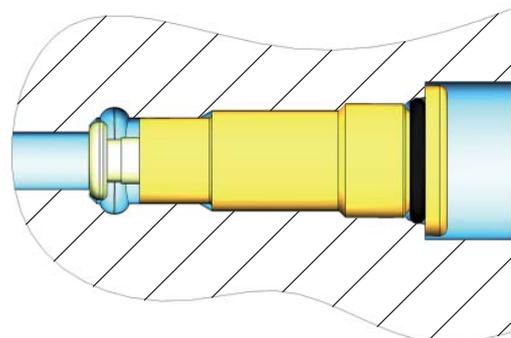
Setting range step: 5 bar.



# Load check valve

## Load check valve MB01

Separate load check valves for A and B port in both sections.



## Plug MBP

Replaces MB01 when a single acting spool is used.

## Spool controls - A-side

### Spool control 9

Spring centering.



### Spool control 11

Spring centering with de-  
tent at position 4.



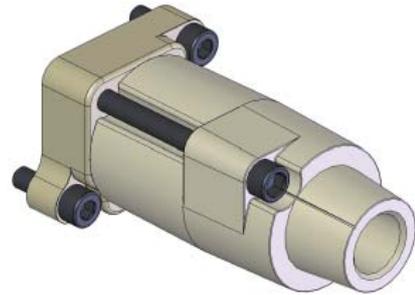
## Spool controls - B-side

### 3W

Cap for 3 and 4 position spool controlled by cable.

### M19

Bracket for 3 or 4 position spool.

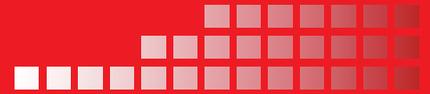


## Spools

	<p><b>Spool for general use</b> Recommended pump flow range, 20-70 l/min</p>	
	<p><b>Function</b></p> <p>Single acting</p>	<p><b>Code</b></p> <p>2X*</p>
	<p>Double acting spool with 4th pos.</p>	<p>3X**</p>

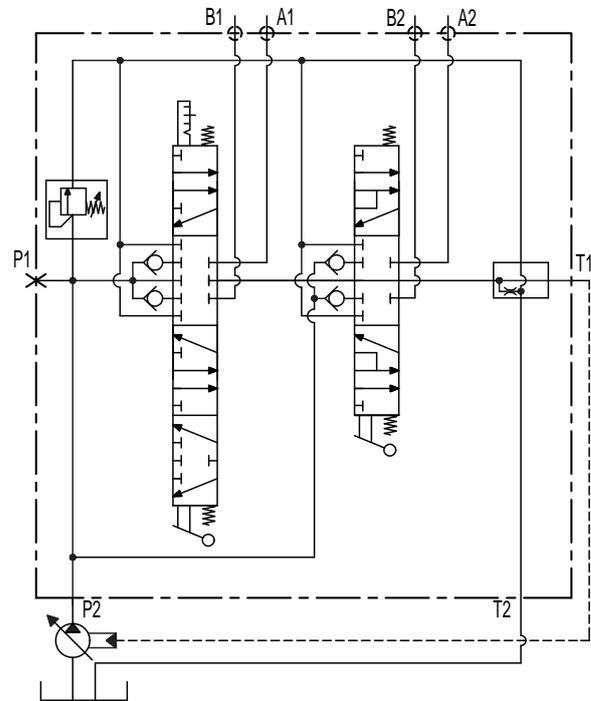
\*Spool for single acting cylinder. The load check valve on B-port has to be replaced by plug MPB.

\*\* The same spool is used for double acting cylinder as for double acting cylinder and float. The 4th position, float, of the spool is available only in combination with spool control 11.



Spool 3SA semi load sensing section 1

Spool 1SA semi load sensing section 2



## High pressure carry-over

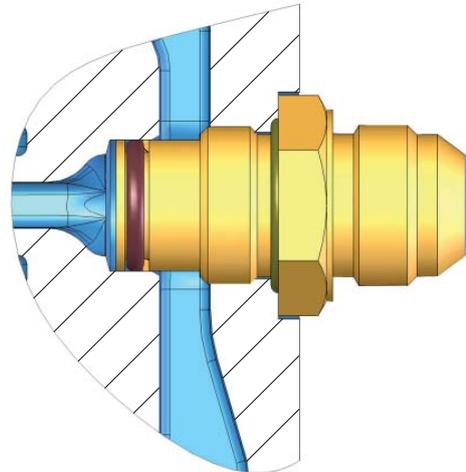
### High pressure carry-over nipple for open centre flow

Type SG 21 Converts DIN G 3/4" to DIN G 1/2"

Type SJU1-1/16 Converts DIN G 3/4" to male thread JIC 1 1/16" connection

Type SGU3/4 Converts DIN G 3/4" to male thread G 3/4" connection

Type SGU1/2 Converts DIN G3/4" to male thread G 1/2" connection

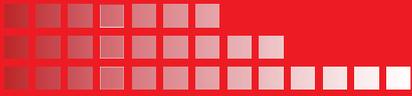


## Adapter for load sensing

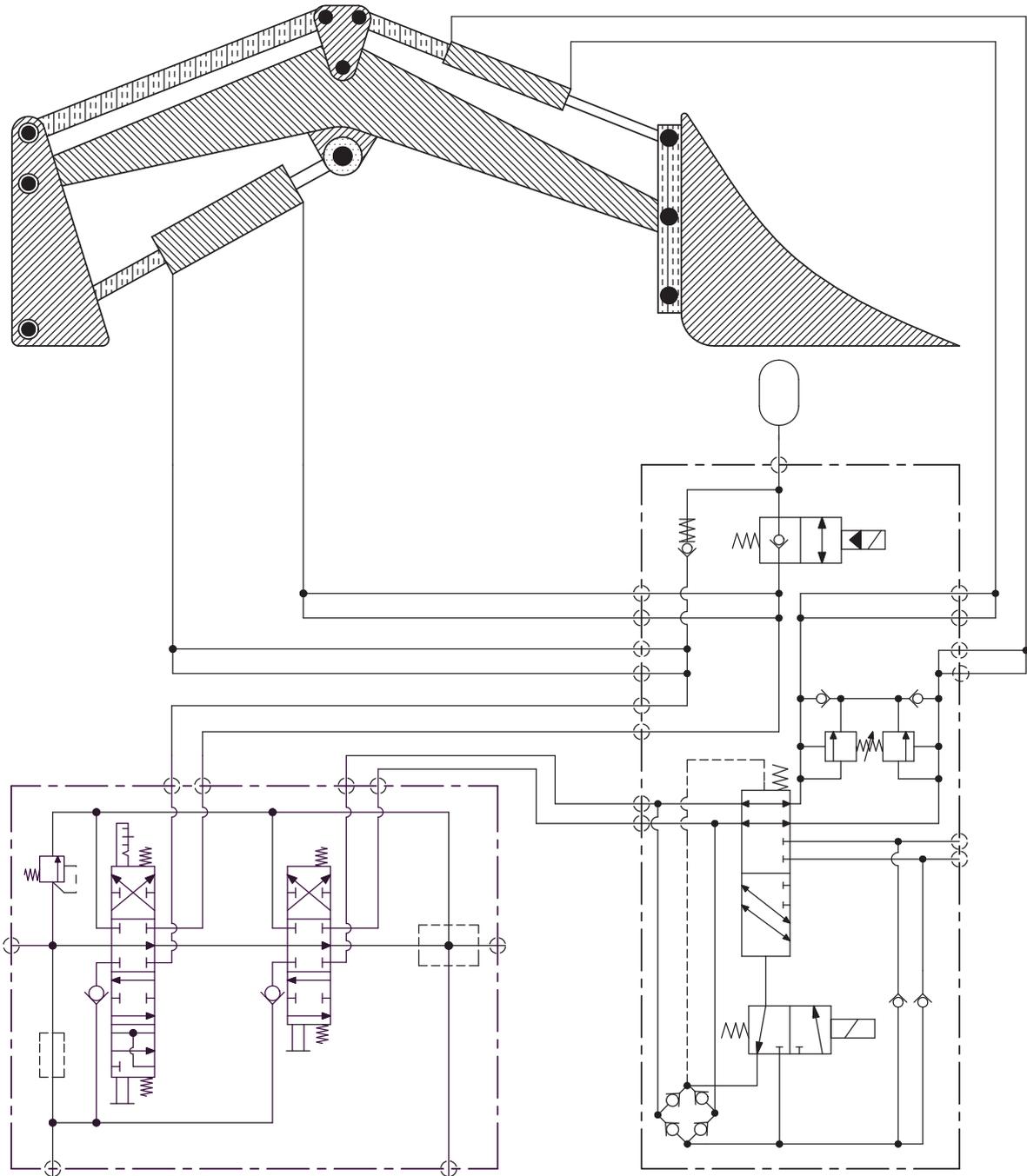
The adapter for the load sensing signal is with a signal draining orifice.

The draining flow is small and in most cases not even noticeable as a flow loss.

The adapter is as standard available in 2 different versions.



RMB 202



Nordhydraulic offers the complete concept for front-end loaders. The concept includes the valves for the hydraulic system as well as the Nordhydraulic great experience of the front-end loader application.

RMA 202 or RMB 202 as alternatives for the main manoeuvre valve and RV 361 or RV 362 to complete the system for one or two additional functions will give the front-end loader manufacturer access to a well proven concept.