

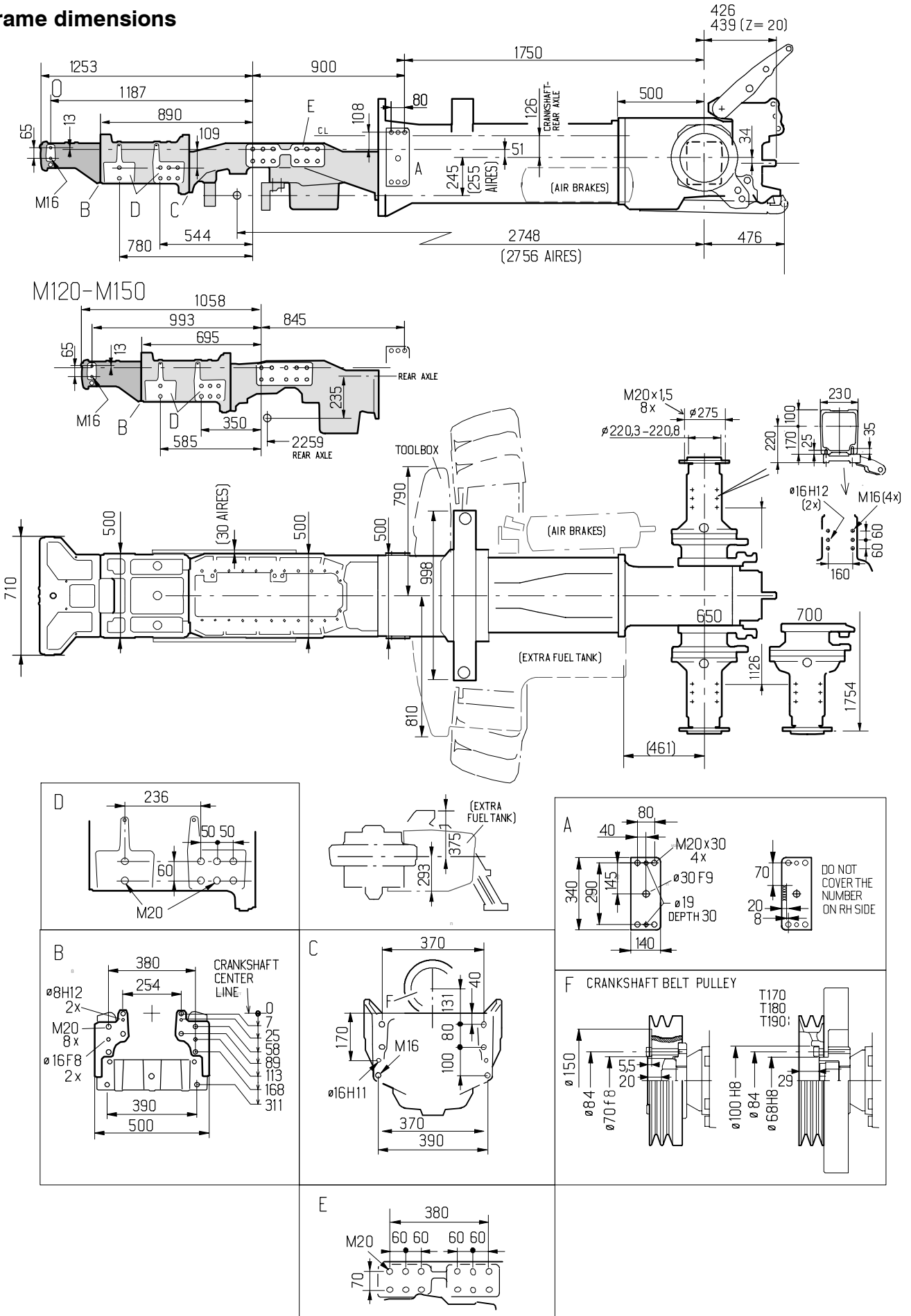
70. Frame and wheel

71. Frame

72. Wheels

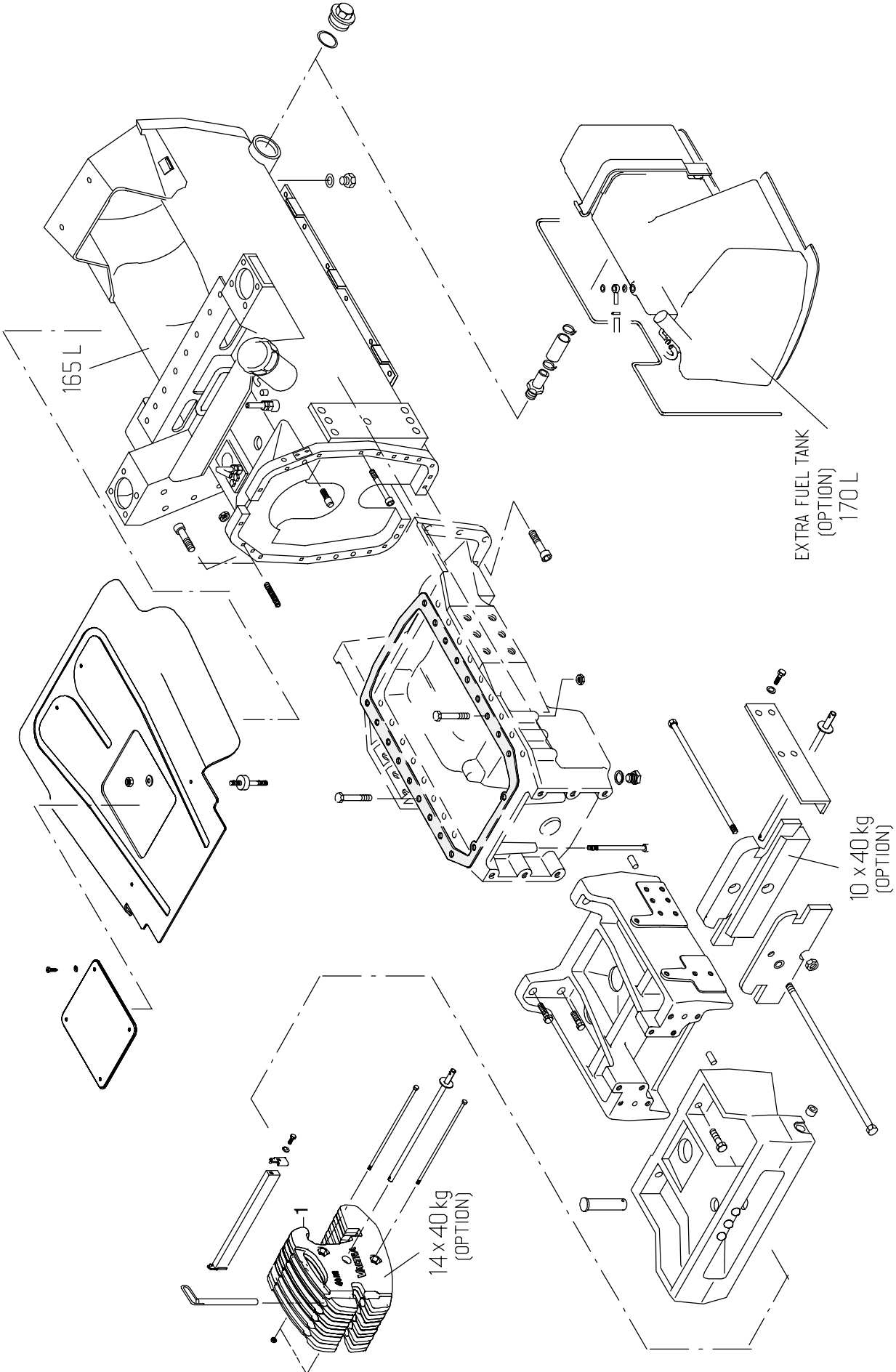
71. Frame		Model	Code	Page
	2.1.2004	T120-T190 M120-M150	710	1

Frame dimensions



71. Frame		Model	Code	Page
	2.1.2004	T120-T190 M120-M150	710	2

Front weight support and frame



72. Wheels		Model	Code	Page
	2.1.2004	T120–T190 M120–M150	720	1

Wheels

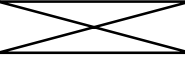
Rear	Front	T120	T130	Fixed disc	T120 T130 T140	T160 T170	Fixed disc
	Front axle	Agricultural			Industrial		
680/75R32	540/65R28				x	x	x
460/85R38	380/85R28	x					
18.4R38	14.9R28	x	x		x	x	
		x	x	x	x		x
18.4–38/8	14.9–28/6	x	x		x	x	
520/70R38	420/70R28	x	x		x	x	
520/85R38	420/85R28	x	x		x	x	
		x	x	x	x	x	x
20.8R38	16.9R28	x	x		x	x	
		x	x	x	x	x	x
20.8–38/10	16.9–28/8	x	x		x	x	
540/65R38	440/65R28	x					
580/70R38	480/70R28	x	x		x	x	
600/65R38	480/65R28	x	x		x	x	
650/65R38	540/65R28	x	x		x	x	
					x	x	x
620/70R42	480/70R30					x	
650/75R38	600/65R28					x	
480/80R42	16.9R28				x	x	
20.8R42	460/85R30					x	
520/85R42	460/85R30					x	
650/65R42	540/65R30					x	
270/95R48	230/95R36	x	x		x	x	
18.4R38	14.9R28 IND	x	x	x	x	x	x
20.8R38	16.9R28 IND				x	x	x
600/65R38	480/65R28 IND	x	x	x	x	x	x
18.4–38/14	14.9–28/14 FOR	x	x	x	x	x	x
600/65–34	500/60–26,5 FOR				x	x	x
600/65R38	500/65R28 FOR				x	x	x
650/65R38	540/65R28 FOR				x	x	x
20.8–38/14	16.9–28/14 FOR				x	x	x

Always contact your dealer to ensure the right ratio is used. When track widths are adjusted or larger tyres/tires fitted, the turning angles have to be checked/adjusted with max turning angle of the front axle on both sides.

NOTE: On the traffic tractors 50 km/h the tyre/tire loadings are smaller. Check from the tyre/tire manufacturer's catalogue/catalog.

Wheel nuts, tightening torque (T series)

- Wheel nuts, front 4WD 550 Nm
- rear 550 Nm
- Rim–wheel disc (front and rear) 310 Nm

72. Wheels		Model	Code	Page
	2.1.2004	T120–T190 M120–M150	720	2

Rear	Front	T180 T190	Fixed disc
680/75R32	540/65R28	x	x
18.4R38	14.9R28	x	
18.4–38/8	14.9–28/6	x	
520/70R38	420/70R28	x	
520/85R38	420/85R28	x	
		x	x
20.8R38	16.9R28	x	
		x	x
20.8–38/10	16.9–28/8	x	
580/70R38	480/70R28	x	
600/65R38	480/65R28	x	
650/65R38	540/65R28	x	
		x	x
620/70R42	480/70R30	x	
650/75R38	600/65R28	x	
480/80R42	16.9R28	x	
20.8R42	460/85R30	x	
520/85R42	460/85R30	x	
650/65R42	540/65R30	x	
270/95R48	230/95R36	x	
18.4R38	14.9R28 IND	x	x
20.8R38	16.9R28 IND	x	x
600/65R38	480/65R28 IND	x	x
18.4–38/14	14.9–28/14 FOR	x	x
600/65–34	500/60–26,5 FOR	x	x
600/65R38	500/65R28 FOR	x	x
650/65R38	540/65R28 FOR	x	x
20.8–38/14	16.9–28/14 FOR	x	x

Always contact your dealer to ensure the right ratio is used. When track widths are adjusted or larger tyres/tires fitted, the turning angles have to be checked/adjusted with max turning angle of the front axle on both sides.

NOTE: On the traffic tractors 50 km/h the tyre/tire loadings are smaller. Check from the tyre/tire manufacturer's catalogue/catalog.

Rear	Front	M120, M130		M120, M130	M150	Fixed disc
		Front axle	Agricultural			
680/75R32	540/65R28			X	X	X
16.9R38	13.6R28	X				
420/85R38	340/85R28	X				
460/85R38	380/85R28	X		X	X	
18.4R38	14.9R28	X		X	X	
18.4–38	14.9–28	X	X	X	X	X
520/70R38	420/70R28	X		X	X	
520/85R38	420/85R28	X		X	X	
		X	X	X	X	X
20.8R38	16.9R28	X		X	X	
				X	X	X
20.8–38	16.9–28	X		X	X	
540/65R38	440/65R28	X				
580/70R38	480/70R28	X		X	X	
600/65R38	480/65R28	X		X	X	
650/65R38	540/65R28	X		X	X	
				X	X	X
270/95R48	230/95R36	X		X	X	
18.4R38	14.9R28 IND	X	X	X	X	X
20.8R38	16.9R28 IND			X	X	X
600/65R38	480/65R28 IND	X	X	X	X	X
18.4–38/14	14.9–28/14 FOR	X	X	X	X	X
600/65R38	500/65R28 FOR			X	X	X
20.8–38/14	16.9–28/14 FOR			X	X	X
600/65–34	500/60–26,5 FOR			X	X	X
650/65R38	540/65R28 FOR			X	X	X

Always contact your dealer to ensure the right ratio is used. When track widths are adjusted or larger tyres/tires fitted, the turning angles have to be checked/adjusted with max turning angle of the front axle on both sides.

NOTE: On the traffic tractors 50 km/h the tyre/tire loadings are smaller. Check from the tyre/tire manufacturer's catalogue/catalog.

Wheel nuts, tightening torque

- Wheel nuts, front 4WD 550 Nm
- rear 550 Nm
- Rim–wheel disc (front and rear) 310 Nm

Tyre loadings and pressures, T120–T170

Rear axle			Front axle		
Tyre/Tire	Max loading per tyre/tire (kg)	Pressure (kPa)	Tyre/Tire	Max loading per tyre/tire (kg)	Pressure (kPa)
680/75R32	5000 kg	160 kPa	540/65R30	2725 kg	160 kPa
460/85R38	3250 kg	160 kPa	380/85R28	2060 kg	160 kPa
18.4R38/8	3000 kg	160 kPa	14.9R28/8	1800 kg	160 kPa
18.4–38/8	2725 kg	140 kPa	14.9–28/6	1650 kg	140 kPa
520/70R38	3875 kg	160 kPa	420/70R28	2060 kg	160 kPa
	2185 kg	60 kPa		1160 kg	60 kPa
520/85R38	3875 kg	160 kPa	420/85R28	2430 kg	160 kPa
20.8R38/8	3650 kg	160 kPa		2430 kg	160 kPa
20.8–38/10	3475 kg	160 kPa	16.9R28/8	2240 kg	160 kPa
540/65R38	2390 kg	120 kPa	16.9–28/8	2180 kg	170 kPa
	1810 kg	60 kPa	440/65R28	1450 kg	120 kPa
580/70R38	3875 kg	120 kPa		1060 kg	60 kPa
	2185 kg	60 kPa	480/70R28	2500 kg	160 kPa
600/65R38	3075 kg	160 kPa		1410 kg	60 kPa
	2150 kg	70 kPa	480/65R28	1850 kg	160 kPa
600/65R38 E1	3650 kg	160 kPa		1300 kg	70 kPa
			650/65R38	1850 kg	160 kPa
3350 kg	120 kPa	1300 kg		70 kPa	
2510 kg	60 kPa	540/65R28	2070 kg	120 kPa	
650/65R38 E1	3320 kg		100 kPa	1540 kg	60 kPa
650/75R38	5800 kg	240 kPa	540/65R28	2070 kg	120 kPa
18.4R42	3150 kg	160 kPa		1540 kg	60 kPa
20.8R42	3875 kg	160 kPa	600/65R38	3075 kg	120 kPa
	4875 kg	240 kPa		3650 kg	160 kPa
480/80R42	3450 kg	160 kPa	16.9R28	2240 kg	160 kPa
	1840 kg	60 kPa	460/85R30	2900 kg	160 kPa
520/85R42	4125 kg	160 kPa	540/65R30	2360 kg	120 kPa
	4750 kg	240 kPa		2725 kg	160 kPa
650/65R42	4250 kg	160 kPa	480/70R30	2575 kg	160 kPa
	5150 kg	240 kPa	230/95R36	980 kg	110 kPa
620/70R42	4500 kg	160 kPa		1165 kg	160 kPa
270/95R48	1465 kg	110 kPa	14.9R28 IND	3350 kg	320 kPa
	1225 kg	160 kPa	16.9R28IND	3765 kg	300 kPa
20.8R38 IND	5460 kg	260 kPa	480/65R28 IND	3765 kg	320 kPa
600/65R38 IND	5350 kg	230 kPa	500/60–26.5 FOR	3290 kg	320 kPa
600/65–34 FOR	4410 kg	240 kPa	14.9–28/14 FOR	2024 kg	300 kPa
18.4–38/14 FOR	3110 kg	260 kPa	500/65R28 FOR	2800 kg	240 kPa
600/65R38 FOR	4375 kg	240 kPa	540/65R28 FOR	3250 kg	240 kPa
650/65R38 FOR	5000 kg	240 kPa	16.9–28/14 FOR	3120 kg	270 kPa
20.8–38/14 FOR	4340 kg	230 kPa			

When using twin-mounted wheels note the following:

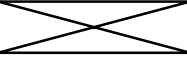
- the loading on these two wheels together can be multiplied by 1.76 of the permissible loading on one wheel.
- using twin-mounted wheels is for decreasing the surface pressure, not for obtaining better side support
- do not exceed tyre/tire size stated for the model in table J 3. when using dual/extension wheels
- the track width of the inner wheels has to be adjusted to minimum value.
- if necessary limited turning axle.

T180–T190

Rear axle			Front axle		
Tyre/Tire	Max loading per tyre/tire (kg)	Pressure (kPa)	Tyre/Tire	Max loading per tyre/tire (kg)	Pressure (kPa)
680/75R32	5000 kg	160 kPa	14.9R28/8	1800 kg	160 kPa
18.4R38/8	3000 kg	160 kPa	14.9–28/6	1650 kg	140 kPa
18.4–38/8	2725 kg	140 kPa	420/70R28	2060 kg	160 kPa
520/70R38	3875 kg	160 kPa		1160 kg	60 kPa
520/85R38	2185 kg	60 kPa	420/85R28	2430 kg	160 kPa
520/85R38	3875 kg	160 kPa		2430 kg	160 kPa
20.8R38/8	3650 kg	160 kPa	16.9R28/8	2240 kg	160 kPa
20.8–38/10	3475 kg	160 kPa	16.9–28/8	2180 kg	170 kPa
540/65R38	2390 kg	120 kPa	440/65R28	1450 kg	120 kPa
	1810 kg	60 kPa		1060 kg	60 kPa
580/70R38	3875 kg	120 kPa	480/70R28	2500 kg	160 kPa
	2185 kg	60 kPa		1410 kg	60 kPa
600/65R38	3075 kg	160 kPa	480/65R28	1850 kg	160 kPa
	2150 kg	70 kPa		1300 kg	70 kPa
600/65R38 E1	3650 kg	160 kPa	480/65R28	1850 kg	160 kPa
				1300 kg	70 kPa
650/65R38	3350 kg	120 kPa	540/65R28	2070 kg	120 kPa
				1540 kg	60 kPa
650/65R38 E1	3320 kg	100 kPa	540/65R28	2070 kg	120 kPa
650/75R38	5800 kg	240 kPa		1540 kg	60 kPa
20.8R42	3875 kg	160 kPa	600/65R38	3075 kg	120 kPa
				4875 kg	240 kPa
620/70R42	4500 kg	160 kPa	16.9R28	2240 kg	160 kPa
480/80R42	3450 kg	160 kPa		480/70R30	2575 kg
			1840 kg	60 kPa	460/85R30
520/85R42	4125 kg	160 kPa	540/65R30	2360 kg	120 kPa
				4750 kg	240 kPa
650/65R42	4250 kg	160 kPa	230/95R36	980 kg	110 kPa
				5150 kg	240 kPa
270/95R48	1465 kg	110 kPa	14.9R28 IND	3350 kg	320 kPa
			1225 kg	160 kPa	16.9R28IND
18.4R38 IND	5055 kg	290 kPa	480/65R28 IND	3765 kg	320 kPa
20.8R38 IND	5460 kg	260 kPa	500/60–26.5 FOR	3290 kg	320 kPa
600/65R38 IND	5350 kg	230 kPa	14.9–28/14 FOR	2024 kg	300 kPa
600/65–34 FOR	4410 kg	240 kPa	500/65R28 FOR	2800 kg	240 kPa
18.4–38/14 FOR	3110 kg	260 kPa	540/65R28 FOR	3250 kg	240 kPa
600/65R38 FOR	4375 kg	240 kPa	16.9–28/14 FOR	3120 kg	270 kPa
650/65R38 FOR	5000 kg	240 kPa			
20.8–38/14 FOR	4340 kg	230 kPa			

When using twin-mounted wheels note the following:

- the loading on these two wheels together can be multiplied by 1.76 of the permissible loading on one wheel.
- using twin-mounted wheels is for decreasing the surface pressure, not for obtaining better side support
- do not exceed tyre/tire size stated for the model in table J 3. when using dual/extension wheels
- the track width of the inner wheels has to be adjusted to minimum value.
- if necessary limited turning axle.

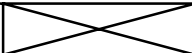
72. Wheels		Model	Code	Page
	2.1.2004	T120–T190 M120–M150	720	6

M series

Rear axle			Front axle		
Tyre/Tire	Max loading per tyre/tire (kg)	Pressure (kPa)	Tyre/Tire	Max loading per tyre/tire (kg)	Pressure (kPa)
680/75R32	5000 kg	160 kPa	540/65R30	2725 kg	160 kPa
16.9R38	2575 kg	170 kPa	13.6R28	1550 kg	160 kPa
420/85R38	2800 kg	160 kPa	340/85R28	2060 kg	160 kPa
460/85R38	3250 kg	160 kPa	380/85R28	2060 kg	160 kPa
18.4R38/8	3000 kg	160 kPa	14.9R28/8	1800 kg	160 kPa
18.4–38/8	2725 kg	140 kPa	14.9–28/6	1650 kg	140 kPa
520/70R38	3875 kg	160 kPa	420/70R28	2060 kg	160 kPa
	2185 kg	60 kPa		1160 kg	60 kPa
520/85R38	3875 kg	160 kPa	420/85R28	2430 kg	160 kPa
20.8R38/8	3650 kg	160 kPa		2430 kg	160 kPa
20.8–38/10	3475 kg	160 kPa	16.9R28/8	2240 kg	160 kPa
540/65R38	2390 kg	120 kPa	16.9–28/8	2180 kg	170 kPa
	1810 kg	60 kPa	440/65R28	1450 kg	120 kPa
580/70R38	3875 kg	120 kPa		1060 kg	60 kPa
	2185 kg	60 kPa	480/70R28	2500 kg	160 kPa
600/65R38	3075 kg	160 kPa		1410 kg	60 kPa
	2150 kg	70 kPa	480/65R28	1850 kg	160 kPa
600/65R38 E1	3650 kg	160 kPa		1300 kg	70 kPa
650/65R38	3350 kg	120 kPa	540/65R28	2070 kg	120 kPa
	2510 kg	60 kPa		1540 kg	60 kPa
650/65R38 E1	3320 kg	100 kPa	230/95R36	980 kg	110 kPa
270/95R48	1465 kg	110 kPa		1165 kg	160 kPa
	1225 kg	160 kPa	14.9R28 IND	3350 kg	320 kPa
18.4R38 IND	5055 kg	290 kPa	16.9R28IND	3765 kg	300 kPa
20.8R38 IND	5460 kg	260 kPa	480/65R28 IND	3765 kg	320 kPa
600/65R38 IND	5350 kg	230 kPa	14.9–28/14 FOR	2024 kg	300 kPa
18.4–38/14 FOR	3110 kg	260 kPa	500/65R28 FOR	2800 kg	240 kPa
600/65R38 FOR	4375 kg	240 kPa	16.9–28/14 FOR	3120 kg	270 kPa
20.8–38/14 FOR	4340 kg	230 kPa	500/60–26.5 FOR	3290 kg	320 kPa
600/65–34 FOR	4410 kg	240 kPa	540/65R28 FOR	3250 kg	240 kPa
650/65R38 FOR	5000 kg	240 kPa			

When using twin–mounted wheels note the following:

- the loading on these two wheels together can be multiplied by 1.76 of the permissible loading on one wheel.
- using twin–mounted wheels is for decreasing the surface pressure, not for obtaining better side support
- do not exceed tyre/tire size stated for the model in table J 3. when using dual/extension wheels
- the track width of the inner wheels has to be adjusted to minimum value.
- if necessary limited turning axle.

72. Wheels		Model	Code	Page
	2.1.2004	T120–T190 M120–M150	720	7

Track widths, T120–T170

Rear	Track width
18.4R38, 18.4-38/8, 460/85R38, 480/80R42	1510, 1610, 1715, <u>1810</u> , 1910, 2010, 2115
20.8R38, 20.8-38/10, 520/70R38, 520/85R38, 540/65R38, 580/70R38	1610, 1715, <u>1810</u> , 1910, 2010, 2115
600/65R38, 650/65R38	1715, <u>1810</u> , 1910, 2010, 2115
650/75R38	1715, <u>1810</u> , 1910, 2015, 2115
520/85R42, 20.8R42	1615, 1715, <u>1810</u> , 1910, 2015, 2115
620/70R42, 650/65R42	1715, <u>1810</u> , 1910, 2015, 2115
270/95R48	<u>1500</u> , 1520, 1600, 1620, 1900, 1920, 2000, 2020
680/75R32	1714, <u>1810</u>
600/65-34 FOR	1630, <u>1900</u>
18.4-38/14 FOR, 18.4R38, 18.4R38 IND	1650, <u>1875</u>
20.8R38, 20.8R38 IND, 20.8-38/14 FOR, 600/65R38 FOR, 520/85R38, 600/65R38 IND, 650/65R38, 650/65R38 FOR	1675, <u>1850</u>

Front	Track width
14.9-28/6, 14.9R28, 380/85R28, 420/70R28, 420/85R28, 440/65R28, 16.9R28, 16.9-28/8, 480/65R28, 480/70R28, 540/65R28	1540, 1635, 1740, <u>1835</u> , 1940, 2035
230/95R36	1380, 1480, <u>1500</u> , 1600, 1780, 1880, 1900, 2000
14.9R28, 420/85R28, 14.9-28/14 FOR, 16.9R28, 480/65R28 IND, 14.9R28 IND	1555, <u>1830</u>
Industrial front axle	Track width
14.9R28*, 14.9-28/6*, 16.9R28, 16.9-28/8, 420/70R28*, 420/85R28, 480/65R28, 480/70R28, 540/65R28, 600/65R28, 480/70R30, 460/85R30, 540/65R30	1530, 1625, 1730, <u>1830*</u> , <u>1930</u> , 2025, 2130, 2230
230/95R36	<u>1500</u> , 1545, 1810, 1855, 1900, 1940, 2210, 2255
500/60-26,5 FOR	<u>1890</u> , 1880
16.9R28 IND, 14.9R28, 420/85R28, 480/65R28 IND, 14.9R28 IND, 16.9R28, 14.9-28 FOR, 16.9-28/14 FOR, 500/65R28 FOR, 540/65R28, 540/65R28 FOR	<u>1870</u> , 1890

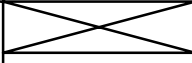
Measured between middle of tyres/tires. Adjusting track widths on page NO TAG.

The standard track widths are underlined. **When track widths are adjusted or larger tyres/tires fitted, the turning angles have to be checked/adjusted with max turning angle of front axle on both sides. When adjusting the rear axle track widths, check that the wheels rotate freely. Check also when using chains that the distance from the cab to the tyres/tires does not go below 80 mm. Check further that the distance from parking lights to the outer sides of the tyres/tires does not exceed 400 mm.**

 Fixed rims.

At the rear, the distance between the mudguards is 1020 mm.

When using the narrow track widths for the rear axle, check that the lower links do not touch the tyres/tires. When required lock the side regulators.

72. Wheels		Model	Code	Page
	2.1.2004	T120–T190 M120–M150	720	8

T180–T190

Rear	Track width
18.4R38, 18.4-38/8, 20.8R38,, 20.8-38/10, 520/70R38, 520/85R38, 520/85R42 540/65R38, 580/70R38, 480/80R42	1610, 1715, <u>1810</u> , 1910, 2010, 2115
600/65R38, 650/65R38, 650/65R42, 650/75R38	1715, <u>1810</u> , 1910, 2010, 2115
650/75R38	1715, <u>1810</u> , 1910, 2015, 2115
520/85R42, 650/65R42, 20.8R42, 620/70R42	1715, <u>1810</u> , 1910, 2015, 2115
270/95R48	<u>1500</u> , 1520, 1600, 1620, 1900, 1920, 2000, 2020
680/75R32	1714, <u>1810</u>
600/65-34 FOR	1630, <u>1900</u>
18.4-38/14 FOR, 18.4R38 IND, 600/65R38 IND	1650, <u>1875</u>
20.8R38, 20.8R38 IND, 20.8-38/14 FOR, 600/65R38 FOR, 520/85R38, 650/65R38 650/65R38 FOR	1675, <u>1850</u>

Front	Track width
14.9R28*, 14.9-28/6*, 16.9R28, 16.9-28/8, 380/85R28*, 420/70R28*, 420/85R28, 480/65R28, 480/65R28E1 480/70R28, 540/65R28, 540/65R28E1, 600/65R28, 480/70R30, 460/85R30, 540/65R30	1530, 1625, 1730, <u>1830*</u> , <u>1930</u> , 2025, 2130, 2230
230/95R36	<u>1500</u> , 1545, 1810, 1855, 1900, 1940, 2210, 2255
500/60-26,5 FOR	<u>1890</u> , 1880
16.9R28 IND, 14.9R28, 380/85R28, 420/85R28, 480/65R28 IND, 14.9R28 IND, 16.9R28, 14.9-28 FOR, 16.9-28/14 FOR, 500/65R28 FOR, 540/65R28, 540/65R28 FOR	<u>1870</u> , 1890

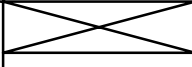
Measured between middle of tyres/tires. Adjusting track widths on page NO TAG.

The standard track widths are underlined. **When track widths are adjusted or larger tyres/tires fitted, the turning angles have to be checked/adjusted with max turning angle of front axle on both sides. When adjusting the rear axle track widths, check that the wheels rotate freely. Check also when using chains that the distance from the cab to the tyres/tires does not go below 80 mm. Check further that the distance from parking lights to the outer sides of the tyres/tires does not exceed 400 mm.**

Fixed rims.

At the rear, the distance between the mudguards is 1020 mm.

When using the narrow track widths for the rear axle, check that the lower links do not touch the tyres/tires. When required lock the side regulators.

72. Wheels		Model	Code	Page
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M series

Rear	Track width
16.9R38, 18.4R38, 18.4-38/8, 420/85R38, 460/85R38	1510, 1610, 1715, <u>1810</u> , 1910, 2010, 2115
20.8R38, 20.8-38/10, 520/70R38, 520/85R38, 540/65R38, 580/70R38	1610, 1715, <u>1810</u> , 1910, 2010, 2115
600/65R38, 650/65R38	1715, <u>1810</u> , 1910, 2010, 2115
270/95R48	<u>1500</u> , 1520, 1600, 1620, 1900, 1920, 2000, 2020
680/75R32	1714, <u>1810</u>
18.4-38/14 FOR, 18.4R38, 18.4R38 IND	1650, <u>1875</u>
600/65-34 FOR	1630, <u>1900</u>
20.8R38, 20.8R38 IND, 20.8-38/14 FOR, 520/85R38, 600/65R38 FOR, 600/65R38 IND, 650/65R38, 650/65R38 FOR	1675, <u>1850</u>

Front	Track width
13.6R28, 14.9R28, 14.9-28, 16.9R28, 16.9-28, 340/85R28, 380/85R28, 420/70R28, 420/85R28, 440/65R28, 480/65R28, 480/70R28, 540/65R28	1530, 1645, 1735, <u>1840</u> , 1930, 2045, 2135
230/95R36	<u>1504</u> , 1580, 1602, 1702, 1880, 1980, 2002, 2102
14.9R28 IND, 16.9R28 IND, 14.9-28/14 FOR, 420/85R28, 480/65R28 IND	<u>1840</u> , 1745
Industrial front axle	Track width
14.9R28*, 14.9-28*, 16.9R28, 16.9-28, 380/85R28*, 420/70R28*, 420/85R28, 480/65R28, 480/70R28, 540/65R28	1530, 1625, 1730, <u>1830*</u> , <u>1930</u> , 2025, 2130, 2230
230/95R36	<u>1500</u> , 1545, 1810, 1855, 1900, 1940, 2210, 2255
500/60-26,5 FOR	<u>1890</u> , 1880
14.9R28, 14.9R28 IND, 14.9-28 FOR, 16.9R28, 16.9R28 IND, 16.9-28 FOR, 420/85R28, 480/65R28 IND, 500/65R28 FOR, 540/65R28, 540/65R28 FOR	<u>1870</u> , 1890

Measured between middle of tyres/tires. Adjusting track widths on page NO TAG.

The standard track widths are underlined. **When track widths are adjusted or larger tyres/tires fitted, the turning angles have to be checked/adjusted with max turning angle of front axle on both sides. When adjusting the rear axle track widths, check that the wheels rotate freely. Check also when using chains that the distance from the cab to the tyres/tires does not go below 80 mm. Check further that the distance from parking lights to the outer sides of the tyres/tires does not exceed 400 mm.**

Fixed rims.

At the rear, the distance between the mudguards is 1020 mm.

When using the narrow track widths for the rear axle, check that the lower links do not touch the tyres/tires. When required lock the side regulators.

90. Hydraulic system

91. Hydraulics

92. Valves for auxiliary hydraulics
and front loader

93. Power lift

91. Hydraulic system		Model	Code	Page
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Technical data

The hydraulic system has low and high pressure circuits. Oil is supplied by a twin gear pump. Both circuits have a common suction strainer. In addition, both the high pressure and low pressure circuit has a pressure filter.

Electro hydraulic linkage:

Hydraulic system is independent of engine and PTO clutches.

Operations

With electro–hydraulic lower link draft sensing	T120–T190
Draft control mixing (position control/draft control mixing)	T120–T190
Lowering speed, independent of load	T120–T190
Transport height	T120–T190
Drive balance control	T120–T190
Slip control	T180–T190*

* Linkage version Ds is alternative equipment for T120–170 which includes slip control feature.

Low pressure circuit:

Pump capacity:

–T140	25 l/min at 1800 r/min engine revs
–T120, T130	28 l/min at 2200r/min engine revs
–T160–T170	30 l/min at 2100 r/min engine revs
–T180–T190	30 l/min at 2100 r/min engine revs

Max. pressure

1,8 MPa (18 bar)

Supplies oil for the following functions

PowerShift
Powered front axle
Power take–off
Differential lock
Gearbox and PTO lubrication
Power shuttle
Parking brake

High pressure circuit:

Pump capacity:

–T120, T130	91 l/min at 2200 r/min engine revs with free low pressure
–T160–T170	87 l/min at 2100 r/min engine revs with free low pressure
–T140	82 l/min at 1800 r/min engine revs with free low pressure
–T180–T190	87 l/min at 2100 r/min engine revs with free low pressure

Max. pressure

19,6 MPa (196 bar)

Shock valve opening pressure of pump

23 MPa (230 bar)

Pressure relief valve opening pressure of working hydraulic circuit

20 MPa (200 bar)

Supplies oil for the following functions

Steering (prioritized), Hydraulic lift,
Auxiliary hydraulics, Trailer brake
valve (extra equipment)

Available volume of oil for auxiliary hydraulics with different filling quantities:

–min	20 l
–max	30 l
–extra max	40 l

Hydraulic power lift:

Electro–hydraulic power lift (Autocontrol)

Hydraulic lift control valve

– type

Bosch

– shock valve opening pressure

20 MPa (200 bar)

Two external lifting cylinders:

– Ø 100 mm

Valves for auxiliary hydraulics

- Two double acting valve blocks with electric control.
- Two additional valve blocks are available as extra equipment.
- As extra equipment, 6/2 valve, which gives two extra quick couplings to the back or front.
- Brake valve can be fitted, as extra equipment, independently other valves.

Each quick coupling has its own action button and adjusting knob on the right hand side panel, enabling the oil flow to be adjusted independently from the oil pressure. The activation time of the oil flow can be regulated with the time adjusting knobs. The floating position is situated at the max position of the decreasing (–) function.

The electric joystick controlling two valve blocks is situated in the right side arm support. The joystick includes also the stepless adjusting screws for hydraulic flow.

Three–point linkage

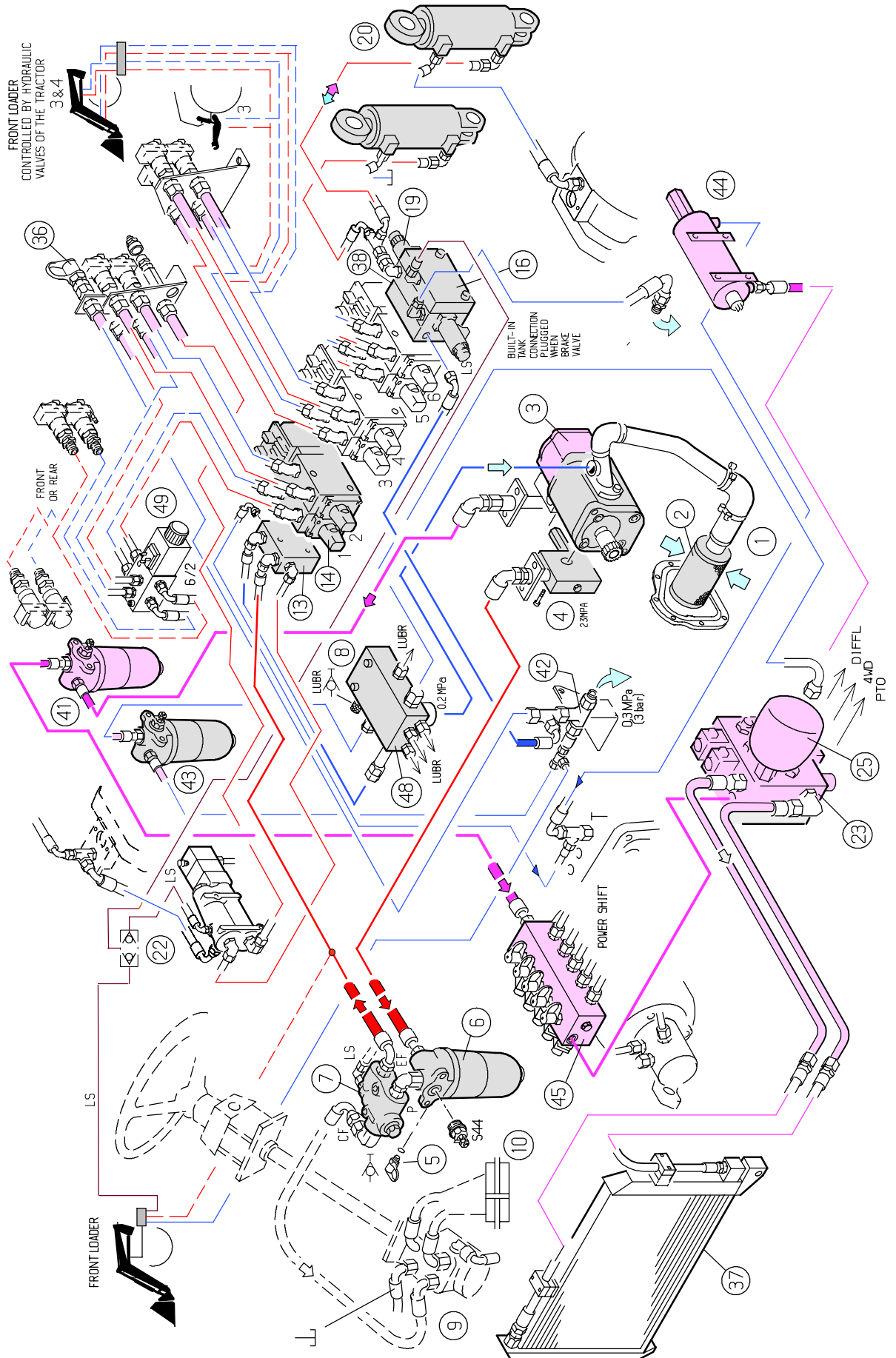
Category 2;

- telescopic lower links
- linkage has quick–attaching type links
- lower links with ball type ends, category 3

Hydraulically controlled pick–up hitch. Agricultural drawbar optional.

Hydraulic system, description

High pressure circuit



The tractor has two electrically controlled valves for auxiliary hydraulics as standard and these are controlled by the separate lever (on the arm rest) or by the switches on the right hand side panel. Both of these valves have a "floating position". There are quick-action Push-Pull type couplings in the rear of the tractor.

Two additional valves and a trailer brake valve can be mounted as option. Also a 6/2 change-over valve is optional. With help of this valve it is possible to use two additional extra couplings.

The capacity of the high pressure circuit pump: (at free flow pressure which enables effective use of the auxiliary hydraulics.)

- **91 l/min** at 2200 r/min (on models T120, T130)
- **87 l/min** at 2100 r/min (on models T160, T170)
- **82 l/min** at 1800 r/min (model T140 has a larger pump capacity giving the same capacity at engine revs)

The high pressure circuit controls:

- steering system (prioritised)
- linkage hydraulics
- auxiliary hydraulics

In the high pressure pump there is fitted a safety valve (23 MPa), which protects the pump in cold weather when the hydraulic oil is thick.

High pressure pump (3) (foremost) delivery pipe conducts oil from the pump to the pressure filter (6), and then to the priority valve (7).

Note! Priority valve and steering system, see section 61.


From the priority valve oil flows to the auxiliary hydraulic valve set end plate (13) (inlet side). The high pressure circuit pressure-limiting valve (19 MPa) is fitted on the underside of the end plate.

Then oil flows through the auxiliary hydraulic valves to the hydraulic lift control valve (19) and then to the lifting cylinders. The control valve free-circulating oil flows to the lubricating system for transmission and oil pressure over 0,2 MPa flows direct to the hydraulic pump suction side.

The hydraulic lift control valve (19) has an in-built shock valve (23 MPa), which protects the system against pressure shocks from the lifting cylinders.

On the pressure filter bracket there is a pressure test point (5) for measuring working hydraulic pressure and also the steering system pressure (see steering system in section 61).

1. Oil reservoir
2. Inlet strainer
3. Double pump
4. Press. relief valve, 23 MPa, besides the pump
5. Measurement point (Valmet HPR).
6. Pressure filter (filtering grade: $\beta_{10}=75$)
7. Priority valve
8. Pressure checking point (lubrication)
9. Steering valve
10. Steering cylinder
13. Inlet flange (pump side)
14. Directional control valve
16. End flange (tank side)
19. Control valve (Bosch)
20. Lift cylinders
22. Brake valve (optional equipment)
23. Valve block
24. Differential lock
25. Hydraulic accumulator
36. Auxiliary hydraulic system return coupling
37. Oil cooler
38. Adapter glange (Danfoss/Bosch)
41. Filter, low-pressure hydraulics
42. Valve, 0,3MPa (3 bar)
43. Filter, aux. return oil
44. Hand brake cylinder
45. Valve block (F, R, C3)
48. Valve block (0,2 MPa)
49. 6/2-valve

91. Hydraulic system		Model	Code	Page
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High pressure hydraulics diagram

Note! The valves for the auxiliary hydraulics, power lift control valve and other valve group valves are shown under codes **920** and **930**.

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Oil reservoir 2. Inlet strainer 3. Double pump (32+11 cm³/r, i= 1,32) 4. Press. relief valve, 23 MPa, besides the pump 5. Measurement point (Valmet HPR). 6. Pressure filter (filtering grade: $\beta_{10}=75$) <ul style="list-style-type: none"> – By-pass valve 0,35 MPa – Warning light (blocking up) 7. Priority valve 8. Pressure checking point (lubrication) 9. Steering valve (OSPC 125LS, 125 cm³/r) <ul style="list-style-type: none"> – Pressure relief valve, steering 14 MPa – Shock valve 20 MPa 10. Steering cylinder 11. Steering valve, reverse drive as in point 9. 12. Shuttle valve, reverse drive 13. Inlet flange (pump side) 13a Free circulation slide 13b LS pressure limiting valve (adjustable) <ul style="list-style-type: none"> – It functions at the same time as the pressure relief valve of the whole hydraulic system. 14. Directional control valve 15. Directional control valve 16. End flange (tank side) 17. Directional control valve (optional equipment) 18. Directional control valve (optional equipment) 18a Zero leak valve 19. Control valve (Bosch) 20. Lift cylinders 21 Ventilation for lift cylinders + transmission (filtering grade: $\beta_{10}=75$). 22. Brake valve (optional equipment) 23. Valve block <ul style="list-style-type: none"> – Pressure relief valve 1,8 MPa – Safety valve 1,2 MPa 24. Differential lock 25. Hydraulic accumulator 26. PTO 27. Multi-disc clutch, 4WD 28. 3-step powershift 29. Lubrication of forward-reverse shuttle 30. Lubrication of pinion shaft | <ol style="list-style-type: none"> 31. Lubrication of pump drive gear 32. Lubrication of main shaft 33. Lubrication of differential 34. Lubrication of PTO shafts 35. Lubrication of PTO gears 36. Auxiliary hydraulic system return coupling 37. Oil cooler 38. Adapter glange (Danfoss/Bosch) 38a Pilot pressure regulating valve 39 Directional control valve (for blocking of the reverse drive control) 40. Differential (front axle) 41. Filter, low-pressure hydraulics 42. Valve, 0,3MPa (3 bar) 43. Filter, aux. return oil 44. Hand brake cylinder 45. Valve block (F, R, C3) 46. Multi disc clutch, reverse 46a. Multi disc clutch, forward 47. PTO pressure checking point 48. Valve block (0,2 MPa) 49. 6/2-valve 49a Quick-couplings front 49b Quick-couplings rear 50. Front loader (Alö) |
|--|--|

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