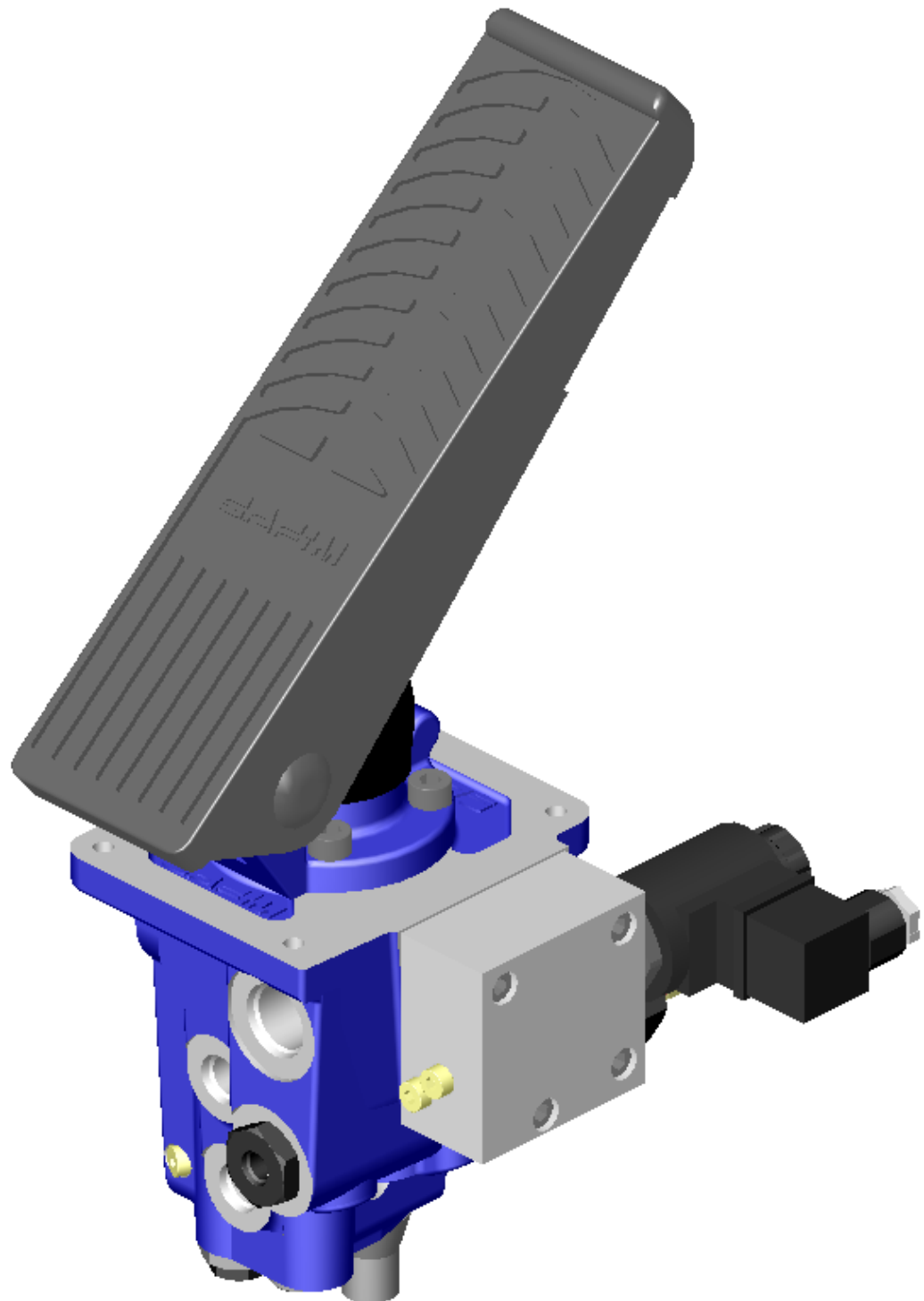
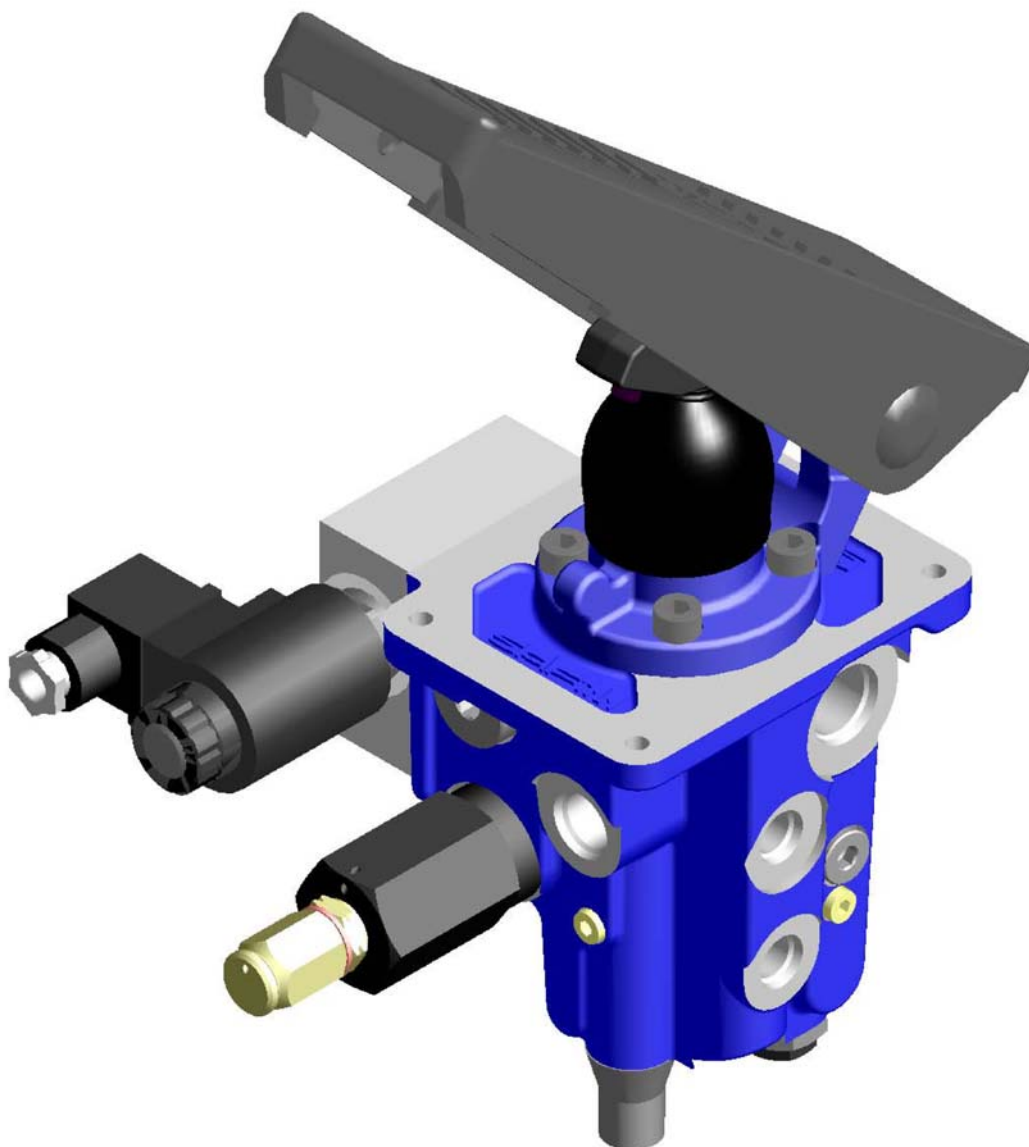


**HYDRAULIC POWERED SINGLE AND DUAL
CIRCUITS BRAKING VALVE TYPE
COMPACT S6**



SAFTIM S.p.A.
SVILUPPO APPLICAZIONI FRENI INDUSTRIALI

500A-0003A-EN



APPLICATION FIELDS

TYRED LOADERS

EXCAVATORS

FARMING VEHICLES

LIFT TRUCKS

FORESTRY MACHINES

STACKERS

MAIN FEATURES

- . Just a single braking unit with one or two independent circuits
- . Accumulator charging valves fed by hydraulic brake cylinders with fixed.
- . Limited size
- . Solenoid valve block for parking and/or work braking
- . Prompt and progressive braking
- . Use of the existing hydraulic system available energy
- . Limited number of hydraulic connections
- . No need of maintenance
- . Easily adjustable

GENERAL DESCRIPTION

The new Safim S6 braking system is a compact assembly with all brake components grouped together in a single, small sized, easy to-adjust unit.

The S6 is a major innovation in braking systems in that it only requires a small number of connections and only uses a small amount of power from the vehicle existing hydraulic circuit; the remaining power is thus available for other functions.

This innovation is made possible by the charging valve which automatically takes the oil in order to charge the hydraulic accumulators.

The S6 technical features consist in that this system provides an increased braking power and a reduced strength on the pedal.

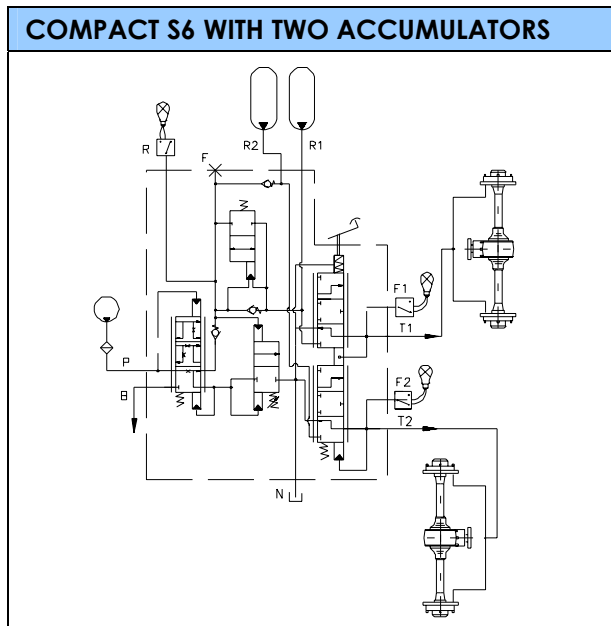
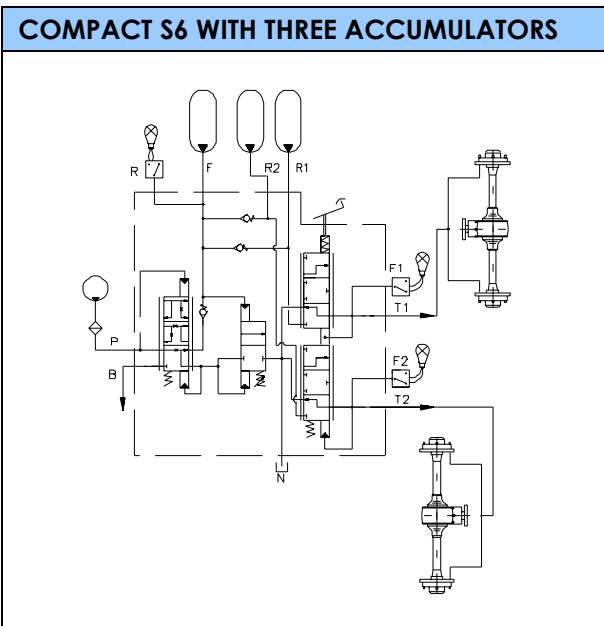
Safim supplies S6 units already adjusted according to customer specifications. Further adjustments can be easily carried out by customers if necessary.

Fitting the S6 is easy, the unit is virtually maintenance free and Safim customer support is always at your disposal to offer assistance and advice.

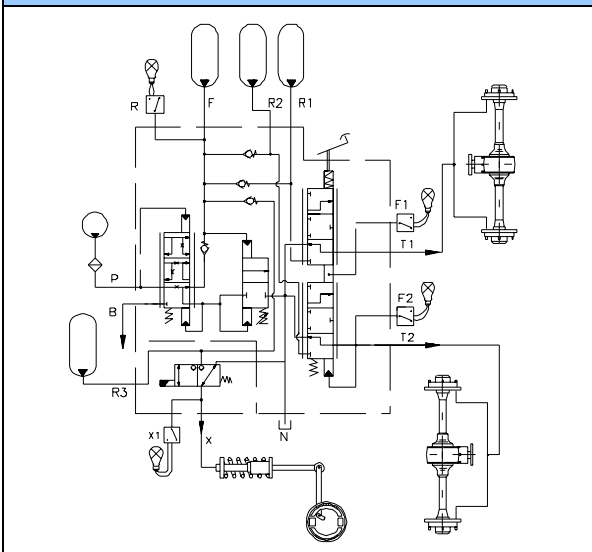
HYDRAULIC PLAN

CONNECTIONS		
P	Pump feeding	M22x1.5 ISO 6149
B	Secondary services feeding	M22x1.5 ISO 6149
X	Parking brake	M14x1.5 ISO 6149
X1	Parking brake pressure switch	M10x1 ISO 6149
N	Discharge to hydraulic oil tank	M18x1.5 ISO 6149
F	Accumulator	M14x1.5 ISO 6149
R1	Accumulator	M10x1 ISO 6149

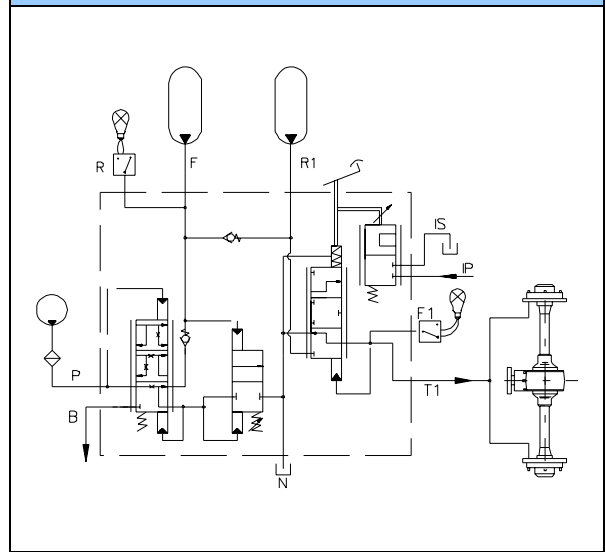
R2	Accumulator	M14x1.5 ISO 6149
R3	Parking brake accumulator	M14x1.5 ISO 6149
T1	Brakes	M14x1.5 ISO 6149
F1	Stop lights	M10x1 ISO 6149
T2	Brakes	M14x1.5 ISO 6149
F2	Stop lights	M10x1 ISO 6149
R	Accumulator pressure switch	M10x1 ISO 6149
IP	Pressure from inching	¼" BSP DIN 3852/2X
IS	Tank	¼" BSP DIN 3852/2X



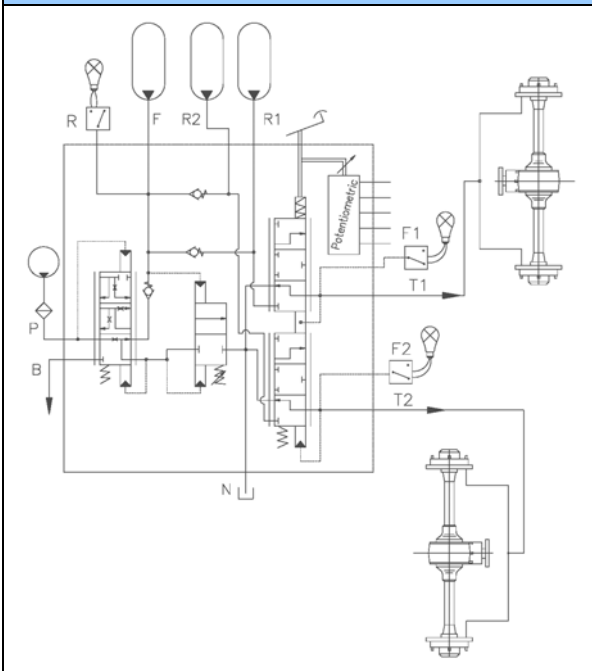
COMPACT S6 WITH SOLENOID-VALVE FOR PARKING BRAKE



COMPACT S6 WITH ONE BRAKING CIRCUIT AND INCHING VALVE



COMPACT S6 WITH TWO BRAKING CIRCUITS AND POTENTIOMETER FOR INCHING VALVE



INSTALLATION REQUIREMENTS

- Kind of oil: hydraulic oil according to DIN 51524.
- Filtering level: NAS 1638 category 8
- Oil viscosity: from 1.9° cSt to 5.4° cSt to 50°C
- Working temperatures from -20° to +90 °C
- Inlet oil 3-50 lit/min
- Accumulator charging valve pressure 50-200 bar

BRAKING PRESSURE RANGE

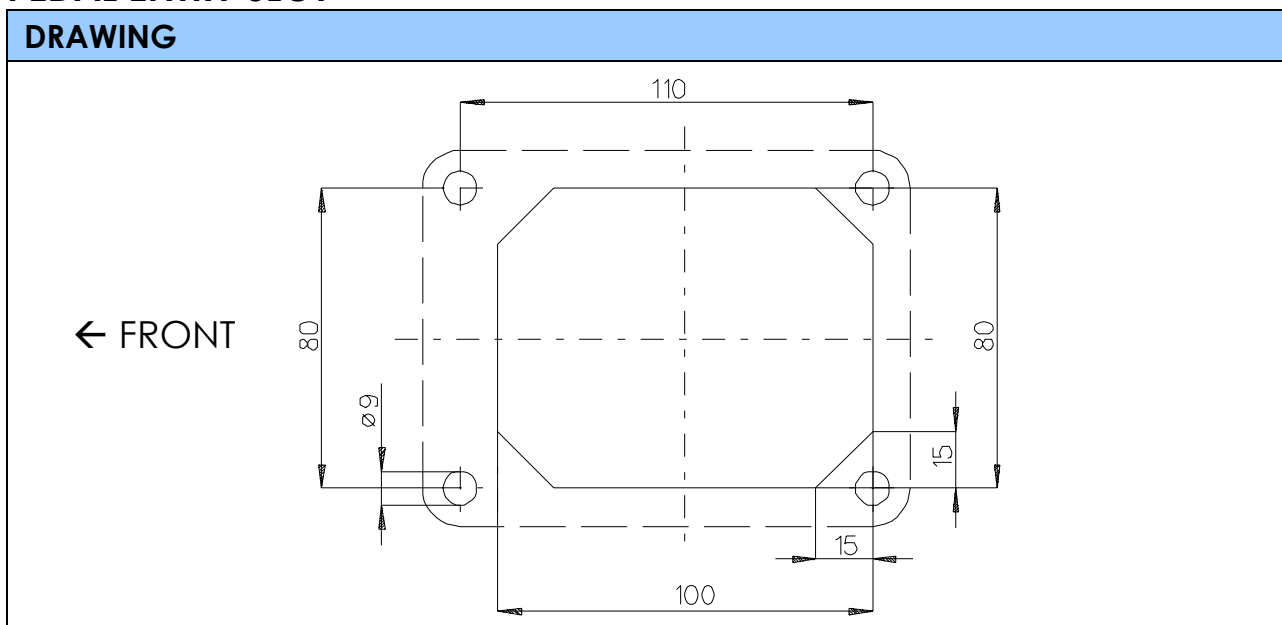
BRAKING VALVE DIAMETER (mm)	BRAKING PRESSURE (Bar)	PEDAL INPUT FORCE* (daN)
14	15 - 70	7,5 - 40
10	60 - 150	18 - 44

* Input force at 45mm from top of the pedal

IDENTIFICATION PLATE

POS.	DESCRIPTION	PLATE DRAWING
1	Part number/order number reference	
2	Day and year of manufacturing	
3	Accumulator recharge pressure	
4	Braking pressure	

PEDAL ENTRY SLOT



ACCUMULATOR CHARGING VALVE

This valve keeps the accumulators pressure within the range set by the vehicle manufacturer (the pressure gap is around 30 bar).

This pressure is being adjusted by means of the adjusting screw fit on a cylindrical end side and protected by a cap nut.

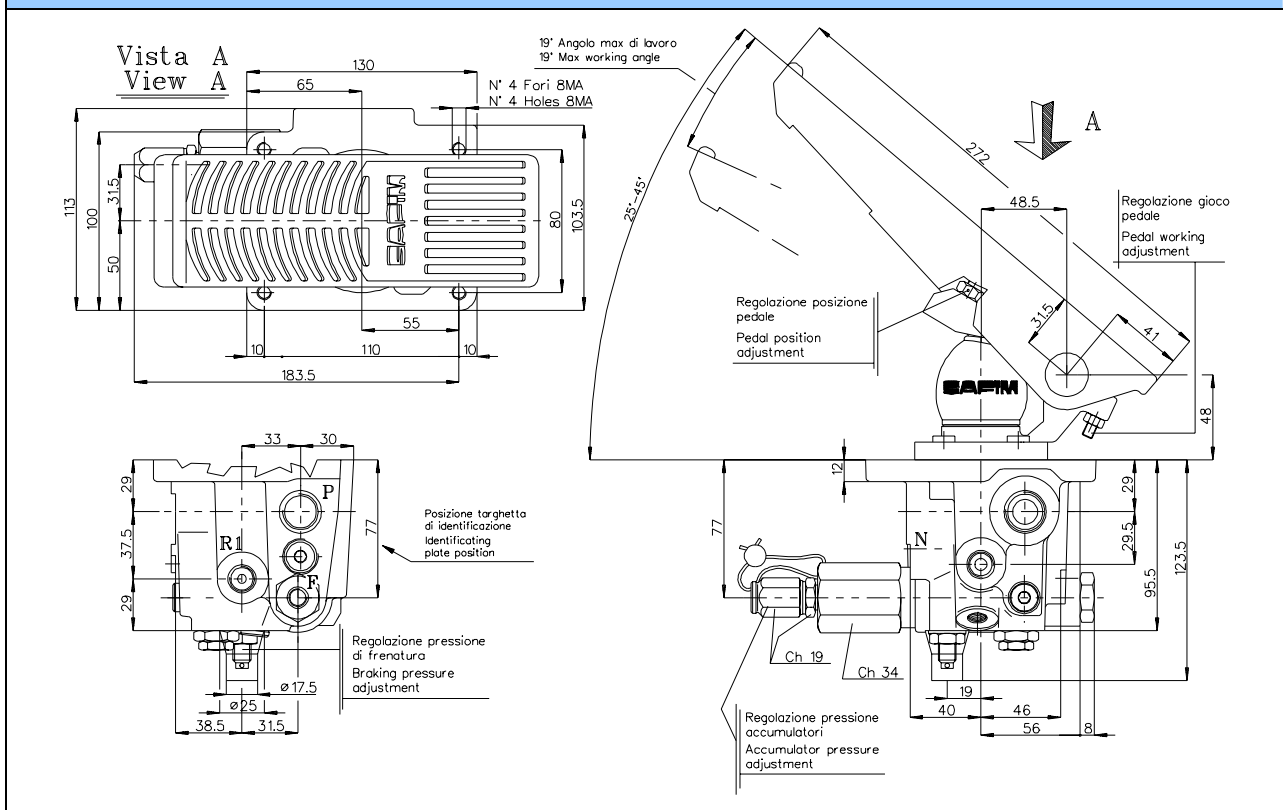
The accumulator charging valve can be connected in series with other applications. The valve takes up oil from the feed pump and conveys it to the accumulators connected to the braking system, at a rate of 6.5 l/min.+/- 10% (this value however is subject to variations).

FURTHER CUSTOMIZED OPTIONS ON COMPACT S6 BRAKE PEDAL

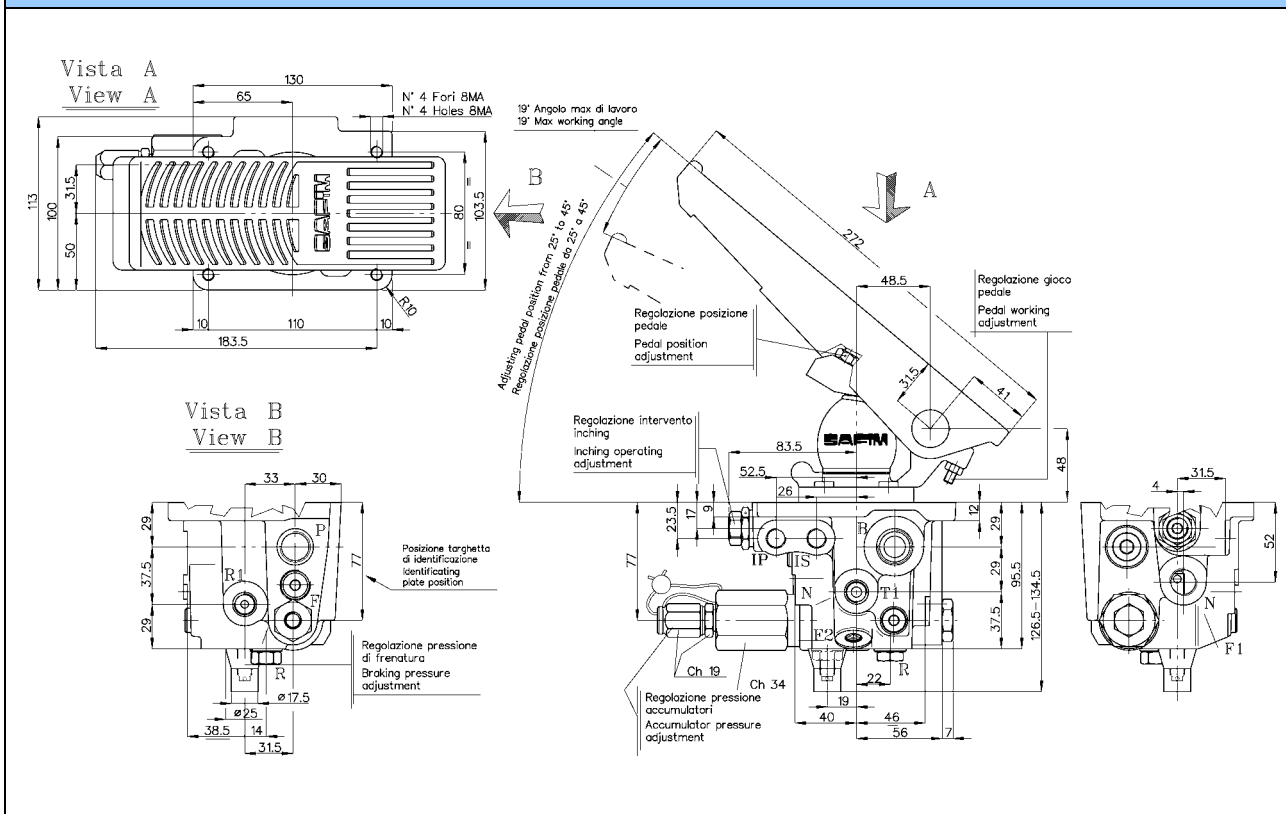
- . Valve excluding hydraulic/electric inching;
- . Solenoid valve for parking brake with connectors in accordance with DIN 43650 regulation (standard), connectors type PAKARD, connectors type DEUTSCH DT 04-2P available.
- . Thread connection ports with hydraulic system in conformity with ISO regulation 6149 (standard) and DIN 3852 available
- . Braking pressure modularity available
- . Brake pedal impressed with customer's personalized logo or a neutral one;
- . Brake pedal stand carried out according to customer's specifications.

SAFIM is willing to take whatever further request into account.

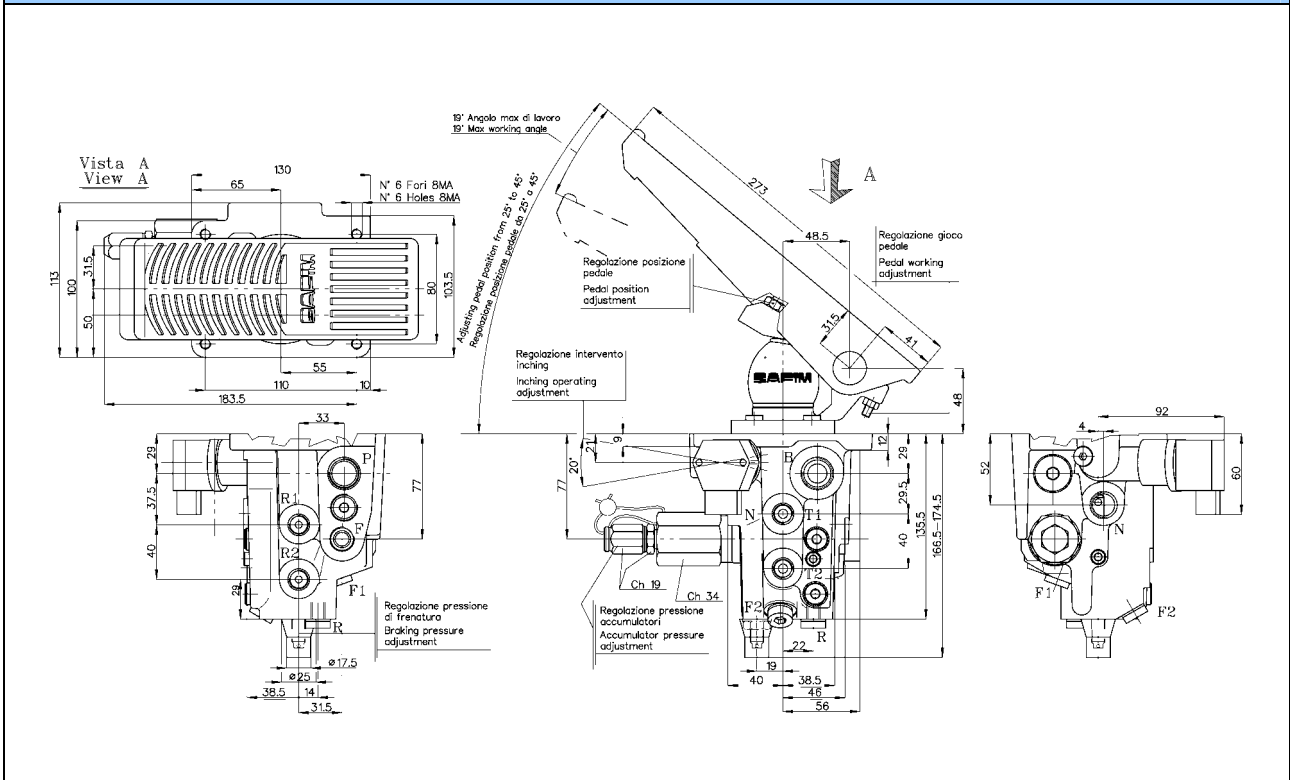
COMPACT S6 BRAKE PEDAL WITH ONE BRAKING CIRCUIT



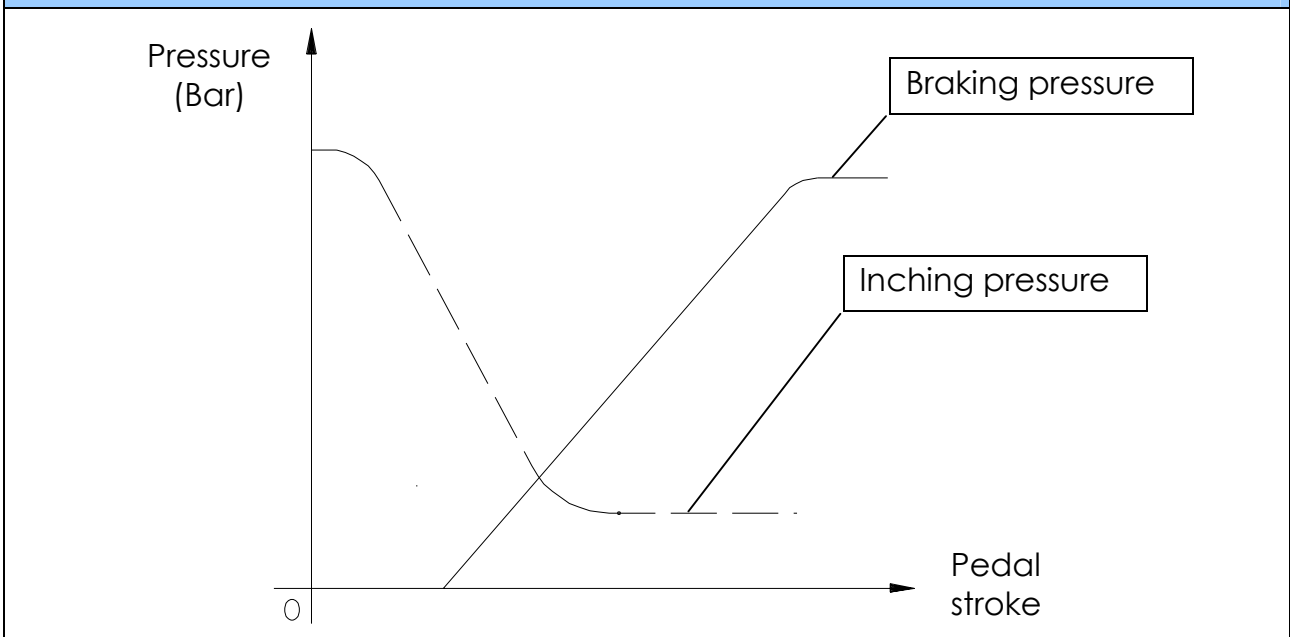
COMPACT S6 BRAKE PEDAL WITH ONE BRAKING CIRCUIT AND INCHING VALVE



COMPACT S6 BRAKE PEDAL WITH TWO BRAKING CIRCUITS AND POTENTIOMETER FOR INCHING VALVE



EXAMPLE OF DIAGRAM WITH INCHING VALVE



TECHNICAL CARD

		Function code for brake system COMPACT S6				03.01.02	
				Date		Page	
Machine to assign the brake system				In charged		Customer	
Brake valve code Compact S6	Brake modul size M Ø 10 1 Ø 14 4 Ø 16 6	Brake circuits numbers N° 1 1 N° 2 2	Accumulator charging valve for pump at: Fixed displacement F Load sensing V Variable displacement S	Working brake cylinder with pilot surface ca. 1.25Cm ³ Yes S No N Inching valve V Inching sensor S	Fluid to operate work brake cylinder Mineral oil M	Chek valve to separe accumulator No valve in N Each circuit S Select the most fill acc. B S + Park chek valve T B + Park chek valve P	
1	2	3	4	5	6	7	

S6	M																		
----	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Type of pedal Normal N Shoes stop B Personalised C Short S Without pedal H With latch I Without pedal for push-rod L Short with latch L	Solenoid tension 2 ways 3 ways 12 Volt 12 Volt A 24 Volt 27 Volt B	Pedal orientation respect the adjusting screw 0° STANDARD S 90° 90 180° 180 270° 270
---	--	--

Solenoid valves set 1x2v 2 1x3v 3 2x3v 6 1x2v+1x3v 5 1x2v+2x3v 8 1x3v nc 4 1x3v+1x3v nc 7 1x2v+1x3v nc 1 1x2v+1x3v+1x3v nc 9 1x2v+2x3v nc A 2x3v nc B	PRESSURE TEST	First brake circuit 11 Second brake circuit 12 Accumulator recharge press. (PI) 13 Max accumulator pressure 14 Warning parking brake pressure 15 Feeding pump flow 16	Point out the thread for low pressure signal pressure switch, in the parking brake accumulator, see note at page 03.00.04 (port F) M10x1 ISO 6149 1 M14x1.5 ISO 6149 4
---	---------------	--	--

Solenoid valves + reducing press. valve (RPV) N° 6 + Rid. X N° 8 + Rid. Y N° 7 + Rid. Z N° 9 + Rid. Q N° 3 + Rid. R N° 5 + Rid. U N° A + Rid. T N° B + Rid. V	Accumulator flow rate (Lit/min) Diameter of priority piston diaphragm hole 1.5 1.5 1.5 3 2 2 5.5 2.5 2.5 8.5 STANDARD S 3 STANDARD 12 4 4 20 5 5 N.B. Only with fixed displacement pump.
---	---

The SAFIM code no. for the group selected is:	Charged customer	Firma per compilazione Firma per approv (DTS/DAC) Firma per presa visione (MON)
The CUSTOMER code no. for the group selected is:		

MODELLO S0003 REV. 1 DEL 01/12/2004