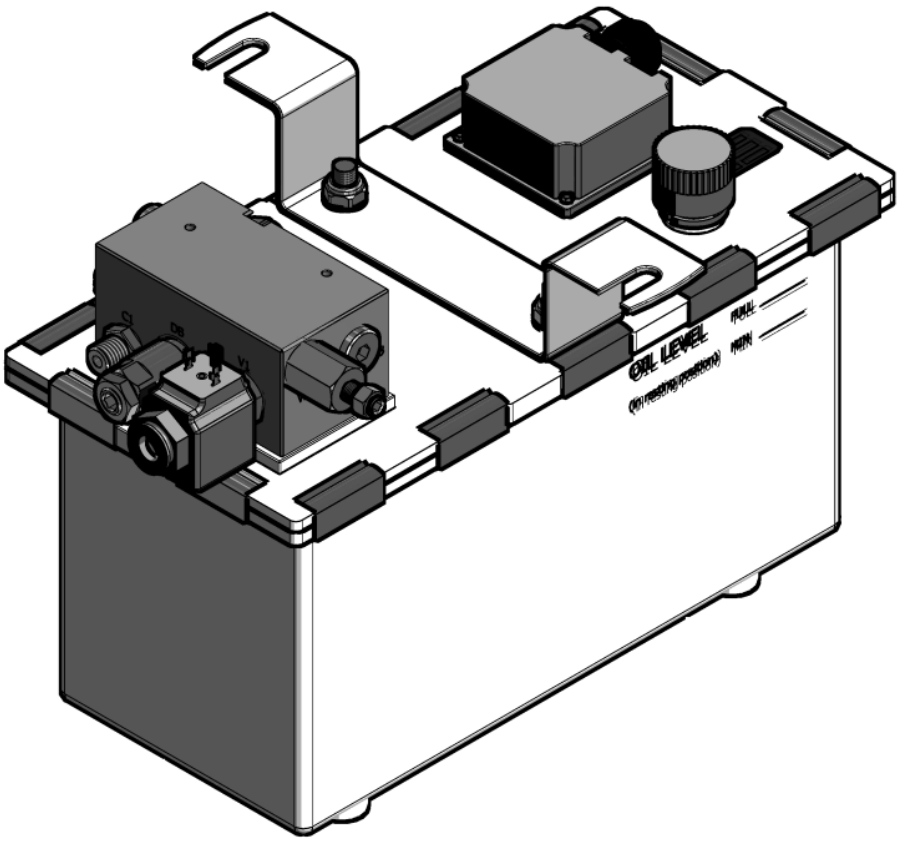
ASSA ABLOY

Function description and adjustment instructions for hydraulic unit HYTOS 80000264-0001 (0,75kW 1MV) valid for swinglip leveler without AUTO button



Function description	
Control unit	SD 950Docking L/DL/LS
Hydraulic unit	Hytos 80000264-0001, 1 magnetic valve *(or similar)*
Hydraulic diagram	87000145
Basic conditions	All electrical and hydraulic components are properly installed, no errors No options installed. No truck in front of the dock
1. Start	• Switch the Main Switch (MS) on • Display 950 will turn on • Service indicator will lit on • Push the LIFT button shortly to activate magnetic valve • Platform will react shortly, service indicator will go off • Magnetic valve V1 is energized OPEN • Ready to start
2. Lift the platform	• Push the LIFT button and keep it pressed • Pump starts *(V1 is still energized open)* • Pressure increasing • Valve V4 switch due to increasing of pressure • Oil flows to both lift cylinders (C1 and C2) and to valve V2 • At approx. 50 bar the platform starts rising
3. Swing out the lip	• Platform reaches uppermost position • Pressure is increasing • Pressure reaches 120 bar (pre-set value) and valve V2 switches • Oil is able to flow via V2 to the lip cylinder (A) • Swing lip swings out
4. Platform lowers	• Release LIFT button when swing lip is completely swung out *If LIFT button is kept pressed, pressure increases. At approx. 140 bar (pre-set value)the pressure is relieved by DB.* • Pump stops. Pressure decreases • Valve V4 switches back due to pressure difference over V4 • The spring of V2 is higher than the oil pressure and V2 switches back • Oil from the lift cylinders flows back to the tank via return line and V1 • Remaining pressure in the return line is higher than the spring pressure of valve V3 • Valve V3 closes the return from the lip cylinder. Swing lip stays in swing out position • Platform lowers. The speed of the platform is regulated by throttle valve DV1. • Platform reaches the lowest position

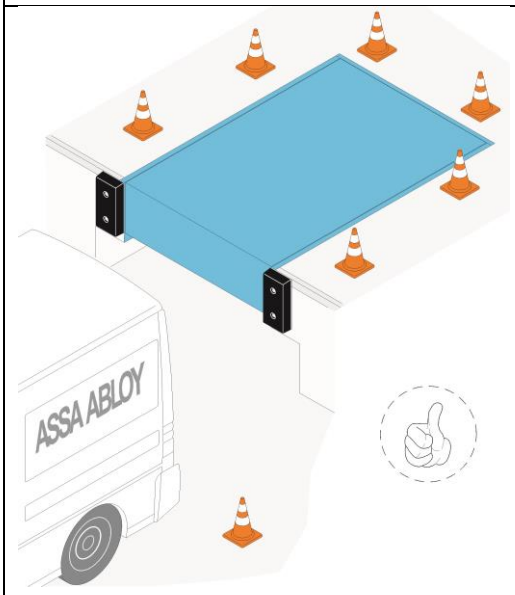
5. Swing lip folds in	• Remaining pressure decreases to 0 bar • Spring pressure V3 switches V3 to open position • Oil from lip cylinder is able to flow to the tank (via open V2 and open V3) • Swing lip will fold in
6. Leveler to cross traffic position *(rest position)*	• Push the LIFT button and keep it pushed • Pump starts *(V1 is still energized open)* • Pressure increasing • Valve V4 switch due to increasing of pressure • Oil flows to both lift cylinders and to valve V2 • At approx. 50 bar the platform starts rising • Release the LIFT button until the swinglip hangs above the crossbeam *(IF the LIFT button is kept pressed, the platform will reaches its uppermost position and the swinglip will swing out again)* • Pump stops pumping • Valve V4 switches back due to pressure difference over V4 • Oil from the lift cylinders flows back to the tank via return line and V1 • Platform lowers • The lowering speed of the platform is regulated by throttle valve DV1. • Platform reaches the cross traffic position

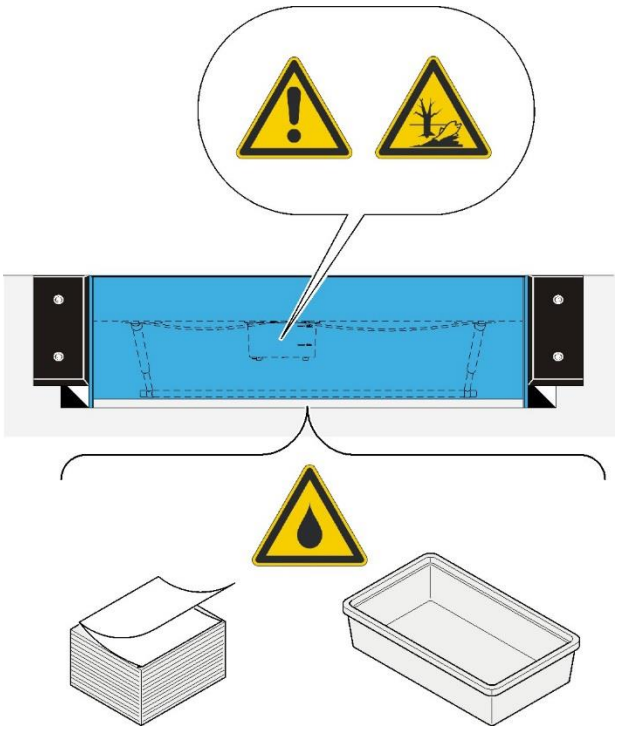
Most important features:

- ✓ Valve V1 is during the complete cycle energized in open position
- ✓ Swinglip folds out due to pressure increasing by a pre-set value
- ✓ Leveler return to cross traffic position by 'dead man grip'

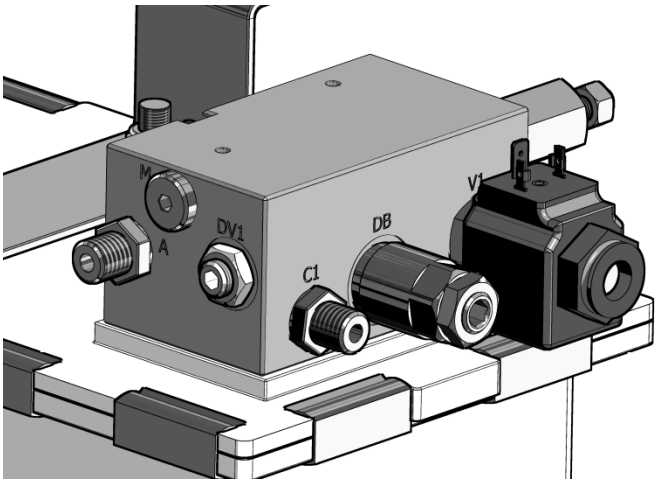
Adjustment instruction	
Control unit	SD 950Docking L/DL/LS
Hydraulic unit	Hytos 80000264-0001, 1 magnetic valve *(or similar)*
Hydraulic diagram	87000145
Basic conditions	All electrical and hydraulic components are properly installed, no errors No options installed. No truck in front of the dock Install a pressure gauge on port M

(EN) Note! Current safety regulations must be adhered to!
(DE) Vorsicht! Beachten Sie immer die gültigen Sicherheitsvorschriften!
(FR) Remarque! Il est impératif de respecter toutes les règles de sécurité!
(SV) Obs! Gällande säkerhetsföreskrifter skall följas!
(NL) Voorzichtig! Let altijd op de geldende veiligheidsvoorschriften!
(IT) Nota bene! Rispettare le vigenti norme di sicurezza!
(PL) Uwaga! Podczas obsługi, wszelkie procedury bezpieczeństwa muszą być zachowane!
(DA) Giv agt Vorsicht! Tag altid hensyn til de gældende sikkerhedsforskrifter!
(ES) ¡Nota! ¡Es imperativo respetar todas las normas de seguridad!
(NO) NB! Gjeldende sikkerhetsforskrifter skal følges!
(FI) Huom! Noudata paikallisia turvallisuusohjeita!
(PT) Atenção! Devem ser aqui colocadas as regras de segurança em vigor!
(RU) Примечание. Необходимо соблюдать указания по технике безопасности!

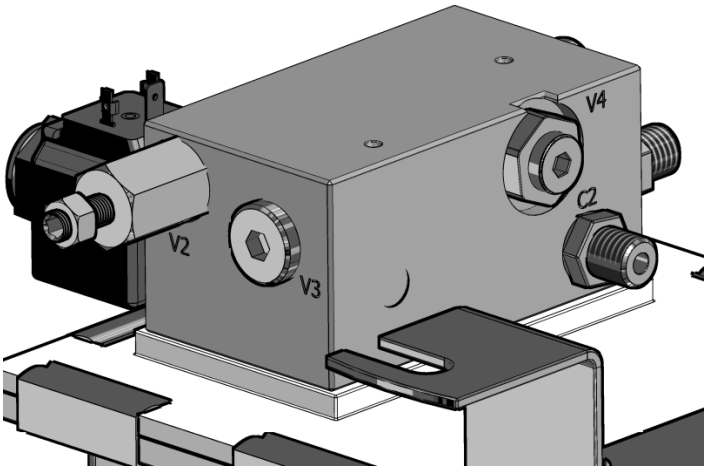




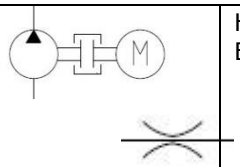
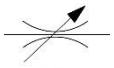
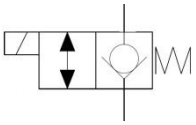
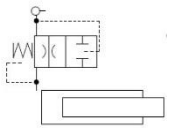
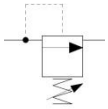
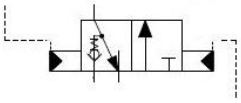
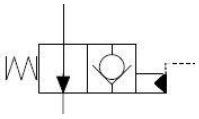
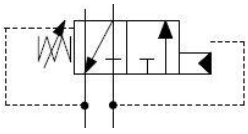
1. Adjusting the lift pressure	• Push LIFT button. If there is not enough pressure to lift the platform, unlock the spindle of valve DB and turn clockwise until the platform rises. • Swing out the lip automatically. If the lip does not swing out unlock the spindle of valve V2 and turn anti-clockwise until the lip swings out. • Keep the LIFT button pressed. Adjust the valve DB to 140 bar, measured at measuring port "M", by turning the spindle (clockwise rotation = pressure higher, anti-clockwise rotation = pressure lower). • Lock the spindle by tightening the lock nut • Check the tightness of the valves. Raise the leveler platform to its uppermost position and switch off the mains isolator. If the platform does not sink all valves are tight.
2. Adjust the automatic swing out movement	• Push LIFT button and raise the platform • Check if the lip swings out automatically. If the lip does not swing out unlock the spindle of valve V2 and turn anticlockwise until the lip swings out (switch pressure 120 bar) • Let the platform sink to its lowest position. The lip must remain swung out while the platform sinks. If the lip swings back turn the spindle more anticlockwise • Raise the leveler platform by pushing the LIFT button. The lip must not swing out while the platform rises. If the lip swings out turn the spindle of valve V2 clockwise until the lip does not swing out while the platform rises. • Lock the spindle by tightening the lock nut. *Remark: The swing out/ in speed of the lip is not adjustable.*
3. Adjusting the platform lowering speed	• Unlock and turn the spindle of valve DV1 clockwise to its stop (close). • Push LIFT button and raise the platform completely. • Turn the spindle anticlockwise so that the sink speed between uppermost and horizontal position of the platform is 120 mm/s, measured at the front edge of the platform. • Lock the spindle by tightening the lock nut. *Remark: a to slow lowering speed can result in an unreliable function of the safety valves!*
4. Checking the function of the safety valves	• Push LIFT button and raise the platform to its uppermost position • Swing out the lip completely and let the platform sink until the lip rests on the testing device (or an appropriate support). • Put a testing weight (min. 25% of the load capacity, e.g. min. 1500 kg for capacity 60 kN) on center of the platform. • Release the testing device respect. Remove the support in one go. • After a sink distance of max. 150 mm (measured at the front edge of the platform) both lift cylinder must lock. • If one cylinder does not lock, repeat the test. If the cylinder does not lock once again, replace the cylinder.



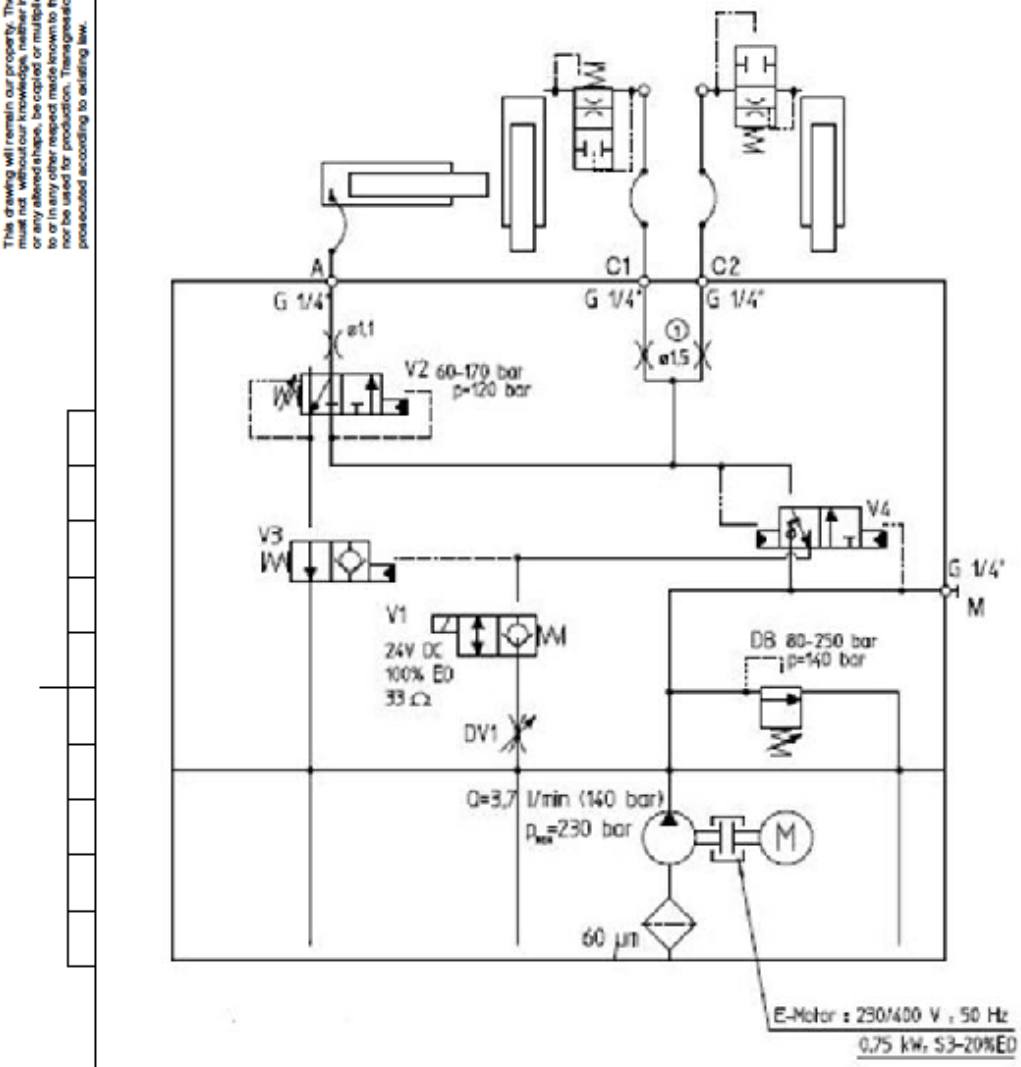
V1	Solenoid valve (MV)
DB	Pressure relief valve
C1	Port for lift cylinder
DV1	Throttle valve, platform sinking speed
A	Port for lip cilinder
M	Port for pressure gauge



V4	Hydraulic valve, lowering platform
C2	Port for lift cylinder
V3	Hydraulic valve, keeps lip swings out during platform lowering
V2	Hydraulic valve, adjustable, swing ot lip by pressure

	Hydraulic pump Electrically driven		Throttle valve (flow restriction)
	Filter (mesh)		Throttle valve (flow restriction) Adjustable
	2-way,2- position valve Spring returned Electrical control (solenoid)		Single acting cylinder With safety valve
	Pressure relief valve Adjustable		Single acting cylinder
	3-way, 2-position valve Hydraulic control		
	2-way, 2-position valve Spring returned Hydraulic control		
	3-way, 2-position valve Spring returned, adjustable Hydraulic control		

Rev.	No.	AN No.	Revision	Date	Drawn	Appr.



6S, M14 x 1,5
In delivery status dust-proof closed.

Drawn	Appr.	Dimensions without specified tolerances refer to: Valid at date of latest rev.	Scale		File	Size
MB						A4

ASSA ABLOY ASSA ABLOY Entrance Systems	HYDRAULIC DIAGRAM SWINGDOCK 0,75 kw 1 MV	Replaces	
		Status / AN No.	Date: 9/9/2015
		Drawing No.: 8700.0145	Rev.: A