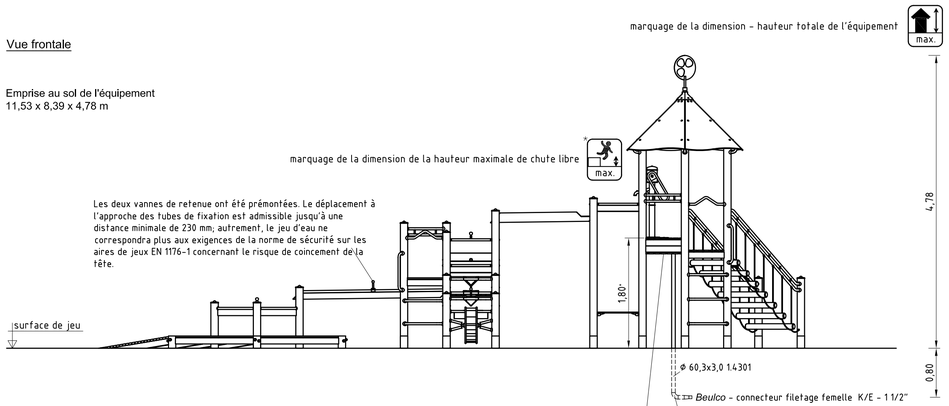
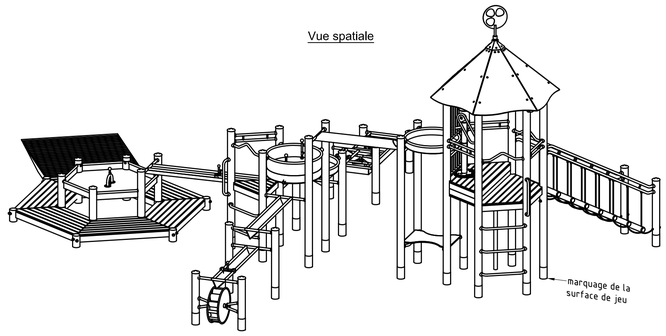
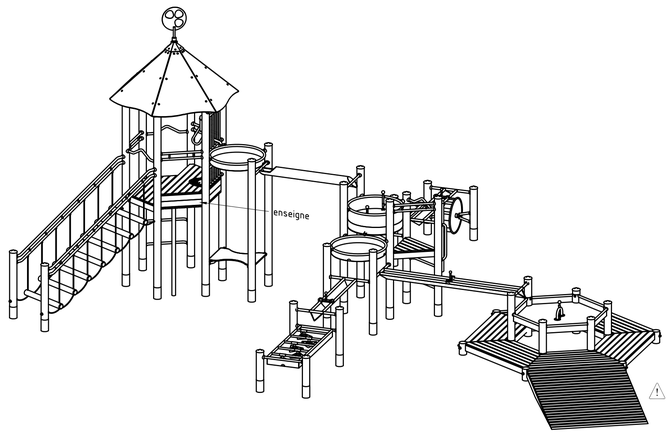
Vue frontale

Emprise au sol de l'équipement
11,53 x 8,39 x 4,78 m



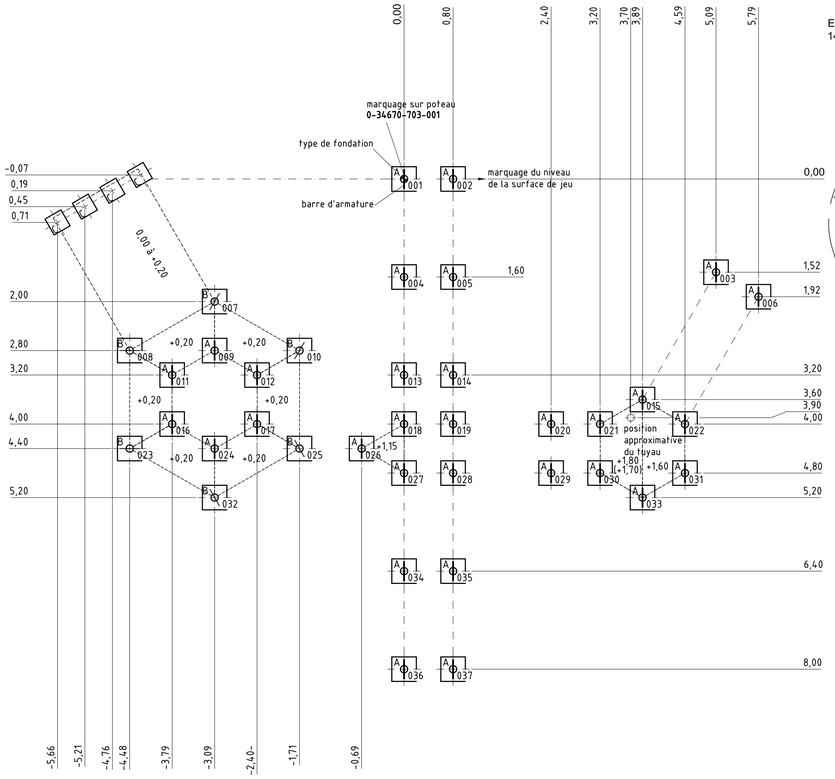
Vue spatiale





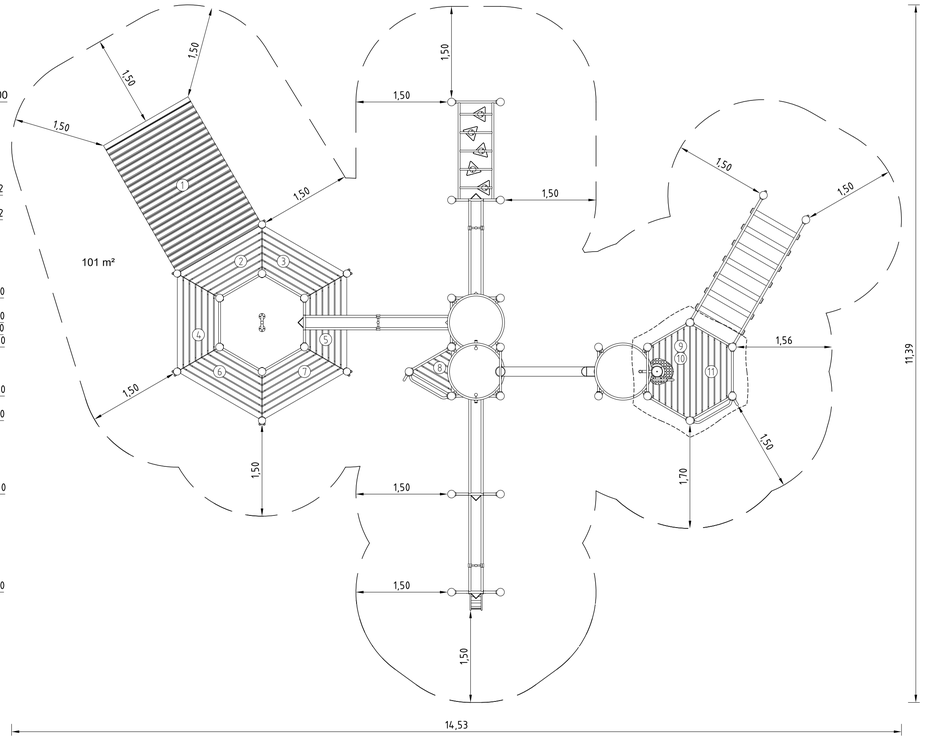
La rampe/plateforme N° 1 couvrira les forages des plateformes trapézoïdales adjacentes. Pour cette raison, il faut monter la rampe en dernier. Les vis nécessaires à cet effet ont été prémontées aux poteaux en usine.

Plan des fondations

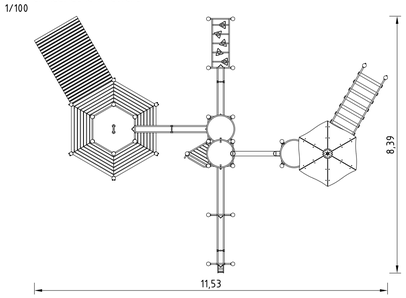


Vue d'en haut & surface de heurt

Espace minimal
14,53 x 11,39 x 4,78 m



Vue d'en haut de la structure
1/100



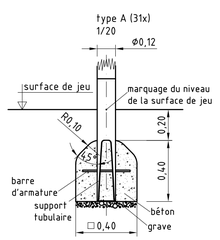
Instructions de montage

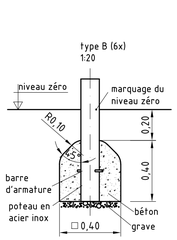
1. Déterminez l'emplacement de l'équipement en tenant compte de l'emprise au sol (zone de sécurité).
2. Effectuez les travaux de déblai selon le dessin. Prenez en considération qu'une terre meuble est indispensable pour effectuer un montage stable.
3. Pour le drainage, interposez une couche de grave d'une épaisseur d'environ 10 cm entre la partie inférieure des poteaux et la semelle des fondations.
4. Posez les barres d'armature aux forages prévus dans les poteaux.
5. Placez les poteaux des types A et B selon le numéro dans le trou de fondation respectif. Le marquage du niveau du sol (=rivet) correspond à la profondeur de montage. Alignez-eux selon leur marquage (voir plan en détail et plan de fondation).
6. **Avant le montage des éléments pré-montés ou des pièces détachées, graissez les vis d'une fine couche de la pâte de montage fournie.** Attachez les plateformes aux poteaux en utilisant le forage respectif dans les équerres de montage (voir aussi le "**tableau de la fixation des plateformes**").
   Serrez les vis après la mise au point.
   Pour plus de détails d'assemblage, voyez la liste de vissages en annexe.
7. Remplissez les trous de béton non armé de la classe C20/25, arrondissez les bords et recouvrez les fondations d'un matériau dont la hauteur critique de chute est supérieure ou égale à la hauteur maximale de chute libre (voir EN 1176-1).
8. Autorisation d'utilisation après la fin de prise du béton.
9. Conformément aux instructions de maintenance, contrôlez les vissages après 4 à 5 semaines et resserrez, si nécessaire. Ensuite, recouvrez les têtes de vis des capuchons protecteurs fournis. Posez les capuchons gris dans les forages lamés (par ex. dans les poteaux). Recouvrez les trous de passage des capuchons rouges: Par un coup de marteau, il faut faire enclencher la partie supérieure dans la partie inférieure.

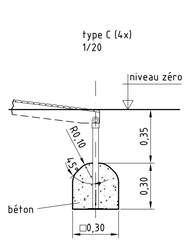
   Veuillez transmettre au personnel compétent les outils spéciaux fournis (par ex. clé hexagone Allen) ainsi que toute documentation spécifique nécessaire à la gestion de sécurité selon la norme EN 1176-7 comme par ex. facture, bon de livraison, confirmation de commande, notice de montage et d'entretien.

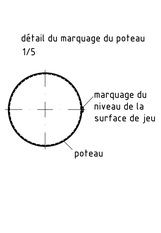
   Installez tous les éléments avant de serrer les fixations; le montage ultérieur est impossible.

Détails des fondations









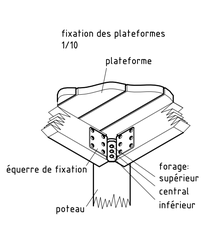
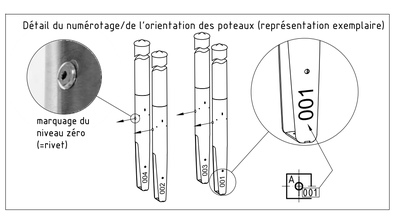


tableau de la fixation des plateformes

N°	hauteur	position du forage dans l'équerre		
		supér.	central	infér.
①	0,20			x
②	0,20		x	
③	0,20	x		
④	0,20	x		
⑤	0,20		x	
⑥	0,20		x	
⑦	0,20	x		
⑧	1,15		x	
⑨	1,80		x	
⑩	(1,70)		x	
⑪	1,60		x	

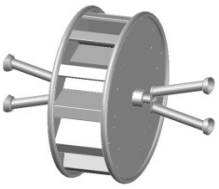


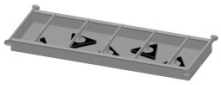
Fondations (sur site)
37x 0,40 x 0,40 x 0,40 m
4x 0,30 x 0,30 x 0,30 m

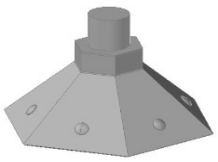
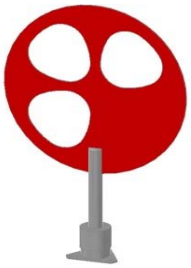
quantité (approximative) de béton
2,5 m³

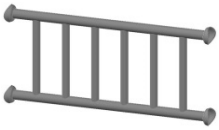
Kaiser & Kühne
Freizeitgeräte GmbH
D-27324 Eystrup
Telefon 04254 / 93150
Telefax 04254 / 931524

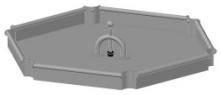
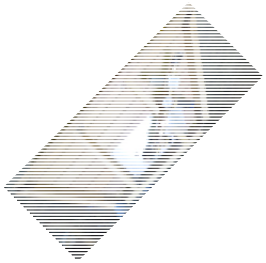
Date/Norm	N° de référence
Gez. 12.03.2019 EB	0-34670-703
Ges..	Designation: K&K Jeux d'eau avec combinaison de valves
Échelle: 1:50 / A1	Dessin: Installation — EN 1176

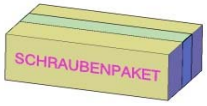
liste des éléments	034670703		FR
n°	**nombre**	**désignation**	**image**
	1	jeu de (31 pcs.) de poteaux en Robinier lamellé collé avecsupport tubulaire en acier inoxydable et capuchon protecteur	
1272086	6	poteau universel en acier inoxydable	
1040410	3	vanne d'arrêt gommeuse pour les rigoles type M/S	
1260042	1	roue à aubes Ø 600 à raccorder aux poteaux	
1040355	1	rigole type M1 2,40 m	
1040354	3	rigole type M1 1,60 m	

liste des éléments	034670703	FR
n°	**nombre**	**désignation**	**image**
1260061	1	bassin tourbillon 0,80m x 1,60m	
1200004	1	plateforme triangulaire 3 x 0,80 m	
1200017	7	plateforme trapézoïdale 0,80 m/1,60 m	
1200094	1	rampe 1,60 x 2,40 m, pente de 0,20 m, raccord au sol	
1260054	1	bassin avec 2 conduits, à aménager en terrasse	
1210032	5	échelon coudé 0,80 m	

liste des éléments	034670703	FR
n°	**nombre**	**désignation**	**image**
1210047	2	poignée (verticale) 0,60 m	
1200022	1	escalier branlant 0,80 m x 2,40 m	
1210358	3	barre de retenue 0,80 m	
1240036	1	toît de façon tipi/conique 45° / 6 x 0,80 m brun	
6240043	1	capot pour des toits 6 x 45° avec girouette	
1240028	1	girouette rouge avec flanc triangulaire	

liste des éléments	034670703	FR
n°	**nombre**	**désignation**	**image**
1260039	1	conduit d'eau 0,80 m x 1,60 m /RS 120	
1210119	1	balustrade en barreaux 0,80 m x 0,30 m	
1210035	1	balustrade en barreaux 0,80 m x 0,60 m	
1220015	1	table de jeu 0,80 x 0,80 m/stratifié massif rouge	
1210022	4	garde-corps tandem 0,80m	
1260076	1	réservoir d'eau / 2 sorties d'un angle de 180°	

liste des éléments	034670703		FR
n°	**nombre**	**désignation**	**image**
1260038	1	bassin avec un conduit, à aménager en terrasse	
1260043	1	table à eau 6 x 0,80 m avec cône pour l'arrêt	
033190000A	1	K&K Combinaison de valves 1 1/4"	
033130001	1	K&K Pompe à eau (en acier inox) avec levier	
1200278	1	plateforme trapézoidale supérieure pour pompe à eau	
1200074	1	plateforme trapézoïdale inférieure avec combinaison de valves	

liste des éléments	034670703	FR
n°	**nombre**	**désignation**	**image**
1040732	1	tuyau à eau pour des combinaison de valves	
1293630	1	jeu d'éléments de fixation pour 034670703	

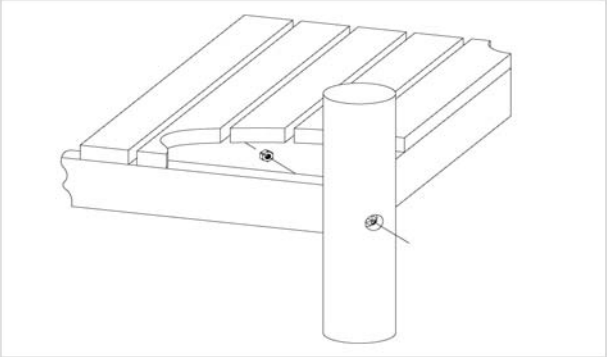
Article: **034670703**
K&K Jeux d'eau

Commande: 1293630

Lieu:

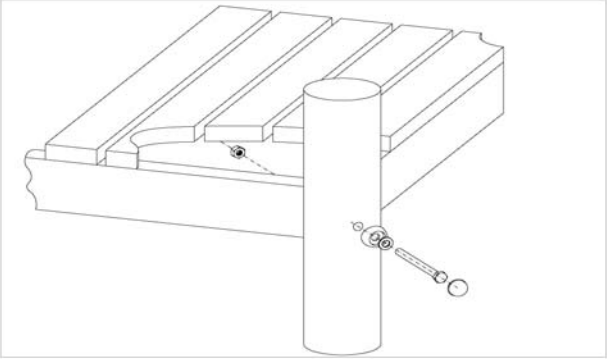
Projet:

4 x SFES1200004 **Fixation de la plateforme au poteau en acier inox vis fixée en usine**



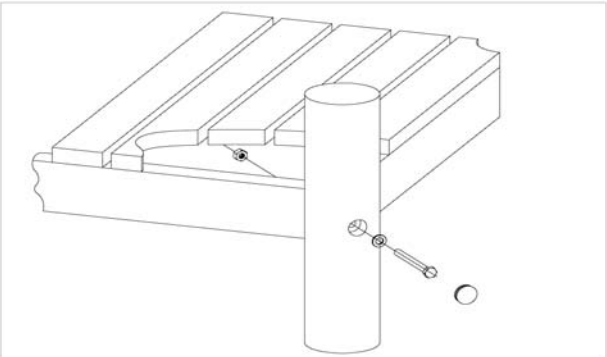
par jeu	au t.	N° d'article	Désignation d'article
1 x	4 x	3430021	Écrou hexagonal autofreiné M12 DIN985 A2

10 x SFES1200014 **Plateforme au poteau en acier inoxydable ou au support tubulaire**



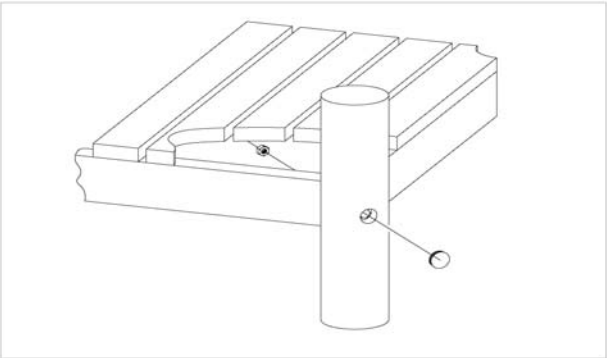
par jeu	au t.	N° d'article	Désignation d'article
1 x	10 x	3300054	Capuchon - pièce inférieure, voûtée pour taille M12, couleur rouge/RAL 2002 PA6
1 x	10 x	3300055	capuchon rouge - pièce supérieure pour taille M12
1 x	10 x	3430025	Rondelle Ø 13 DIN125 A2
1 x	10 x	3430021	Écrou hexagonal autofreiné M12 DIN985 A2
1 x	10 x	3400363	Vis à six pans M12 x 150 DIN931 A2

15 x SFRS1200001 **Plateforme au poteau en robinier écrou du côté de la plateforme**



par jeu	au t.	N° d'article	Désignation d'article
1 x	15 x	3300016	Capuchon voûté en plastique gris SL 36 G
1 x	15 x	3400700	Vis à six pans M12x120 DIN931 A2 avec revêtement rouge de frein-filet
1 x	15 x	3430129	Rondelle Ø 14 DIN1440 A2
1 x	15 x	3430021	Écrou hexagonal autofreiné M12 DIN985 A2

14 x SFRS1200004 **Plateforme au poteau en robinier, vis fixée en usine**



par jeu	au t.	N° d'article	Désignation d'article
1 x	14 x	3300016	Capuchon voûté en plastique gris SL 36 G
1 x	14 x	3430021	Écrou hexagonal autofreiné M12 DIN985 A2

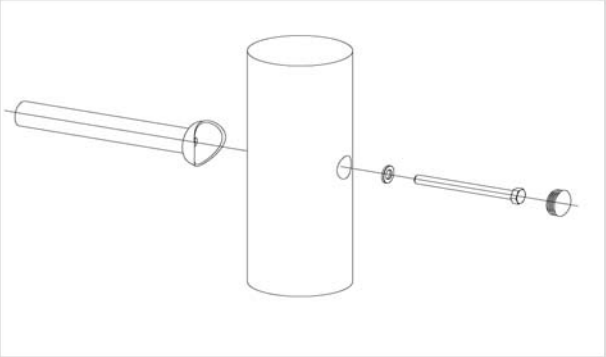
Article: **034670703**
K&K Jeux d'eau

Commande: 1293630

Lieu:

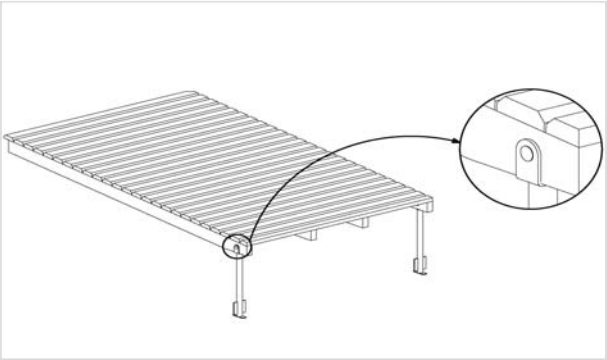
Projet:

102 x SFRS1230004 Vissage standard pour perche, rampe etc. au poteau en robinier (perçage fraisé)



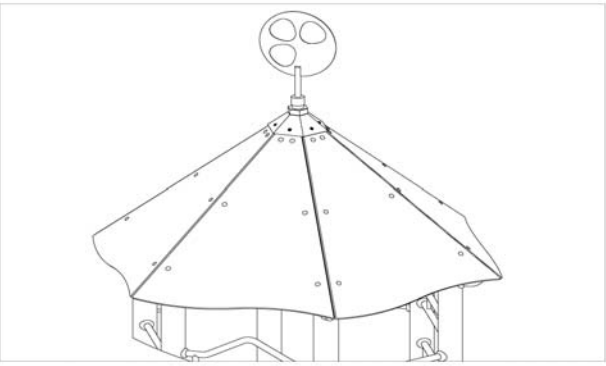
par jeu	au t.	N° d'article	Désignation d'article
1 x	102 x	3300016	Capuchon voûté en plastique gris SL 36 G
1 x	102 x	3430129	Rondelle Ø 14 DIN1440 A2
1 x	102 x	3400701	Vis à six pans M12x130 DIN931 A2 avec revêtement rouge de frein-filet

2 x SFAS1230010 Pied en acier à rampe en bois



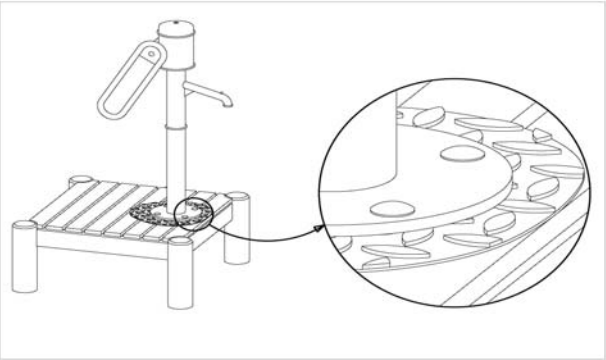
par jeu	au t.	N° d'article	Désignation d'article
2 x	4 x	3430014	Rondelle Ø 10,5 DIN125 forme B A2
2 x	4 x	3430048	Écrou autofreiné M10 DIN985 A2
2 x	4 x	3400416	Vis à tête plate M10 x 65 DIN603 A2

1 x SFAS1240014 Toit pyramidal 6 x 0,80 m avec girouette



par jeu	au t.	N° d'article	Désignation d'article
36 x	36 x	3430014	Rondelle Ø 10,5 DIN125 forme B A2
6 x	6 x	3430102	Rondelle Ø 8.4 DIN9021 A2
6 x	6 x	3400673	Vis à tête bombée M8 x 20 Resistorx A2
36 x	36 x	3430011	Écrou borgne autofreiné M10 DIN986 A2
36 x	36 x	3400138	vis à tête bombée collet carré M10 x 30 DIN 603 A2

1 x SFAS1260001 Pompe à eau sur plateforme



par jeu	au t.	N° d'article	Désignation d'article
4 x	4 x	3430051	Écrou borgne autofreiné M12 DIN986 A2
4 x	4 x	3430025	Rondelle Ø 13 DIN125 A2
4 x	4 x	3400249	Boulon à tête plate M12 x 60 DIN603 A2

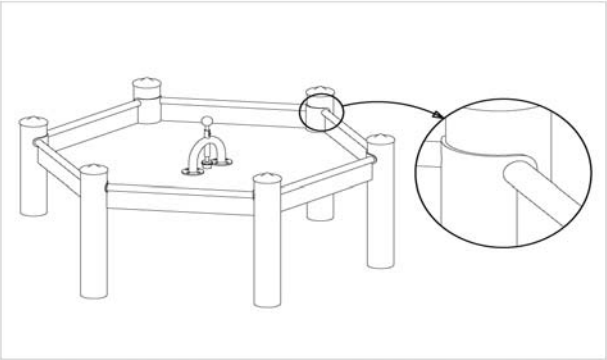
Article: **034670703**
K&K Jeux d'eau

Commande: 1293630

Lieu:

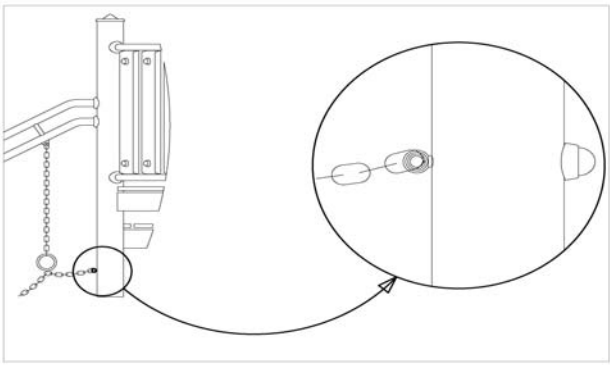
Projet:

1 x SFRS1260001 Table à eau maxi au poteau en Robinier



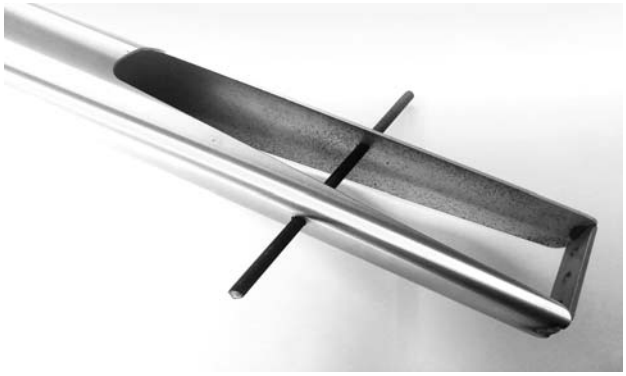
par jeu	au t.	N° d'article	Désignation d'article
6 x	6 x	3400469	Boulon à tête plate M12 x 120 DIN603 A2
6 x	6 x	3300016	Capuchon voûté en plastique gris SL 36 G
6 x	6 x	3430021	Écrou hexagonal autofreiné M12 DIN985 A2
6 x	6 x	3430129	Rondelle Ø 14 DIN1440 A2

4 x SFRS1200009 Châine de connexion entre rondins de l'escalier mobile/arc mobile et poteau



par jeu	au t.	N° d'article	Désignation d'article
1 x	4 x	3430021	Écrou hexagonal autofreiné M12 DIN985 A2
1 x	4 x	3300055	capuchon rouge - pièce supérieure pour taille M12
1 x	4 x	3430025	Rondelle Ø 13 DIN125 A2
1 x	4 x	3300054	Capuchon - pièce inférieure, voûtée pour taille M12, couleur rouge/RAL 2002 PA6

31 x SFES1270007 Barre d'armature pour supports tubulaires



par jeu	au t.	N° d'article	Désignation d'article
1 x	31 x	2130000	Fer à béton Ø 10 x 310 DIN 488

6 x SFRS1270002 Acier à béton pour poteaux en acier inox

par jeu	au t.	N° d'article	Désignation d'article
1 x	6 x	2130000	Fer à béton Ø 10 x 310 DIN 488

Article: **034670703**
K&K Jeux d'eau

Commande: 1293630

Lieu:

Projet:

1 x SFWZ0000001 Tournevis coudé Security TORX TR40

par jeu	au t.	N° d'article	Désignation d'article
1 x	1 x	3490081	Tournevis coudé Security TORX TR40

1 x SFWZ0000012 Pâte lubrifiante (boîte à 30 g) avec pinceau

par jeu	au t.	N° d'article	Désignation d'article
1 x	1 x	5300039	Boîte de pâte lubrifiante (30 g)
1 x	1 x	5200026	Pinceau pour pâte lubrifiante

Key facts in advance

- water supply under pressure - **K&K Valve combination mandatory**
- Installation by a qualified **plumbing company**
- **Separate connection** to avoid pressure shocks or influence on other consumers; if necessary, add expansion vessel (item no. 3990096)
- prepare drinking water supply **according to local ordinances**
- Pump fitting: **1 ¼ in – outer thread**
- fitting (on both sides) of the valve combination: **1 ¼ in – outer thread**
- resting pressure: **3 - 6 bar**
- minimum Ø towards K&K Valve combination: **¾ in DN 20**
- minimum Ø between K&K Valve combination and K&K Water pump: **1 ½ in DN 40**
- pipe installation in **PVC rigid pipe** (Ø 150 mm)
- **maximum difference in height 4 m** between K&K Valve combination und pump outlet
- **maximum horizontal distance 50 m** between K&K Valve combination and K&K Water pump → building installation (*on choice*)
- Valve combination (*on choice*) in separate **drainable, frost-resistant shaft, minimum Ø 1 m**
- **Rinse pipes** before connection
- Create **air- and watertight** connections
- Optimal adjustment of the closing force of the **low pressure valve**
- Use K&K pump latch (item no. 1040639) with a water shut-off or a clock timer
- Adjust discharge flow according to the amount of water supplied and according to the flow rate required.
- **Hand over to the playground operator the winter season accessory and special tools.**
- **Transfer documentation relevant to the local standard (invoice, installation instructions, maintenance instructions)**
- **Store upper part of the pump during the winter season**.

Installation instructions for K&K Valve combination 0-33190-000

for K&K Water pumps with water supply under pressure

Purpose and function

The K&K Valve combination is designed for K&K Water pump connection to water supply under pressure such as public drinking water supply.
With low pressure at the output side, the K&K Valve combination increases the flow rate until there is atmospheric pressure at the output side.

Requirements for installation

- Installation and connection of the water piping and the valve combination have to be carried out by a **qualified plumbing company.**
- With installation of the K&K Valve combination to a public water supply network, the operator must keep to the **local rules concerning drinking water ordinance** - in particular with a (possible locally mandatory) **reflux protection**.
- Fitting size of *K&K Water pump* and *K&K Valve combination*: **outer thread 1 ¼ in**
- Resting pressure of the water pipe: **3 - 6 bar**
- Water pipe cross section **towards** the K&K Valve combination must be at least **¾ in DN 20**.
  A larger cross section facilitates a greater discharge flow of the K&K Water pump connected.
- Water pipe cross section **from** the K&K Valve combination **to** the K&K Water pump must be at least **1 ½ in DN 40**.
- For an air- and watertight connection, see to a **flexible** pipe layout below the *K&K Water pump*.
  It is recommended to install the water pipe between valve combination and pump into a PVC rigid pipe (Ø 150 mm with 2 angles of 45° and a straight piece of 0,50 m length between the angles).
- **Vertical distance** between valve combination und pump outlet **must not exceed 4 m**.
- **Horizontal distance** between valve combination und pump **must not exceed 50 m.**
- If appropriate, it is recommended to create a drainable shaft (with a diameter of at least 1 m) for a frost-resistant installation of the K&K Valve combination.
- **Prior to** installation, the water pipes need thorough rinsing for possible dirt disposal.
- All pipes and fittings must be approved for drinking water and require air- and watertight installation.
- The water pump needs its **own, separate connection** to the main pipeline; no other consumer should be connected. Otherwise, there might be interactions between water pump and other consumers, such as pressure shocks; in addition, the pipe gets depressurised during the pumping procedure which might cause problems to other consumers!

Note: If the water supply to the pump (through a clock timer or similar) is interrupted, the pump handle must be safeguarded against operation (for example by the K&K pump latch, item no. *1040639*). This prevents a handle setback due to an increasing negative pressure.

K&K Water pump assembly with **water supply under pressure**

1. Define a location for the *K&K Water pump* considering the space requirements or rather the specifications in superordinate installation instructions such as water play structures or combinations.
2. Create an appropriate fastening method for the *K&K Water pump*.
   a. Dowelling
   b. Installation on K&K Flange tube (item no. 1040065)
   c. Installation on K&K ring-shaped foundation (item no. 1040173)
   d. Installation on K&K platform (item no. 033150) or similar platforms
3. Install *K&K Valve combination* horizontally in an suitable shaft or a terminal compartment (frost-resistant, vertical distance max. 4 m, horizontal distance max. 50 m). Observe the **local rules concerning drinking water ordinance**.
4. Prepare an **air- and watertight** connection (at least DN 20) to the fine filter of the *K&K Valve combination*. If necessary, adjust closing force of the low pressure valve by means of the threaded spindle.
5. Prepare an **air- and watertight** connection (at least DN 40) in a PVC rigid pipe Ø 150 mm between *K&K Water pump* and *K&K Valve combination*.
6. Fasten the pump column by the four holes in the bottom flange.

Installation with **water supply under pressure**

1. Loosen the security screw in the centre of the pump head (SecurityTorx TR45 - approximately 5 turns). For a cap removal, slighty lift it and turn the screw until the clamping device fits into the extraction slots.
2. Push in the black cap at the low pressure valve (second valve in flow direction, without manometer) until water leaks from the pump.
3. Adjust discharge flow/pump resistance required as follows:
   a. Loosen the four clamping nuts (M8 – wrench size 13 mm) on the eccentric slide (1-2 turns). **Do not unscrew them completely!**
   b. Displace the eccentric slide to the position wanted (see image 1).
      i. small stroke = low flow rate = little pump resistance
      ii. large stroke = high flow rate = high pump resistance
   c. Fasten the four clamping nuts.

small stroke

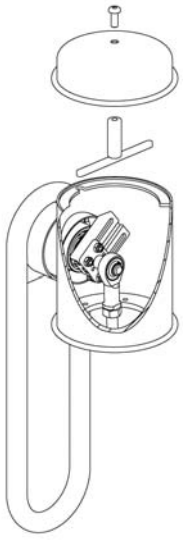


image 1 i

large stroke

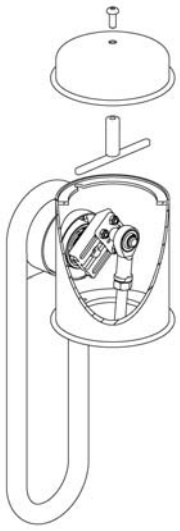


image 1 ii

exemplary illustration for both pump heads available (handwheel on choice)

4. Reinsert clamping device, position pump head cap and fasten it with the security screw.

Handover to the pump operator

Documents Any device-specific documentation, which is or might be useful for the safety management valid on site such as **invoice**, **delivery note** or **order confirmation**, **installation instructions** and **maintenance instructions** must be forwarded (original or copy) **to the playground operator**.

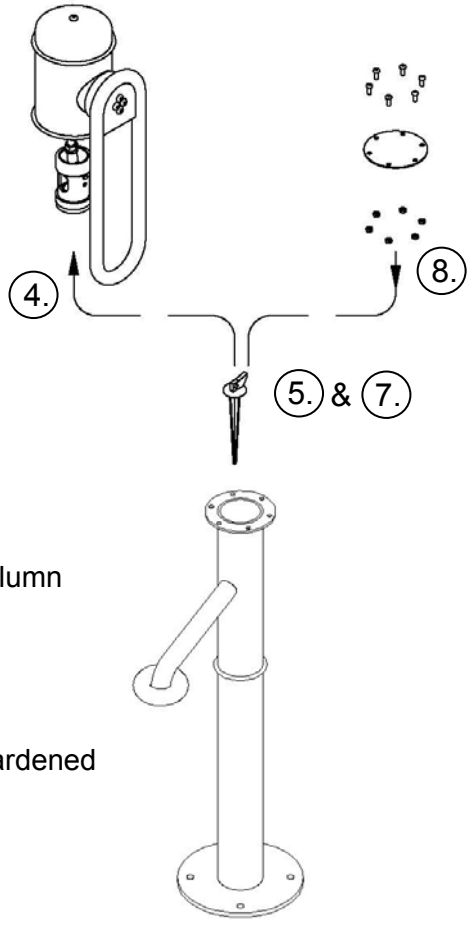
Winter season set All accessory parts and special tools included with the delivery of the device, especially the **winter season set**, the **tool** for secured screws and the **accessory for the K&K valve combination** must be forwarded **to the playground operator**.

Winter season handling

Due to a frost damage risk, the pump head must necessarily be dismounted and stored for the winter season. Otherwise, or by means of chaining the handle, K&K will not accept any responsibility for a damage caused hereby.

In case the valve combination is located in a freezing area, it must as well be dismounted, dewatered and stored. In a frost-resistant area, the dewatering towards the valve combination is sufficient.

exemplary illustration for both pump heads available (handwheel on choice)



Before frost period:

1. Keep at hand supplied winter cover accessory.
2. Shut off water supply up to valve combination.
3. Remove black plastic plugs from the K&K valve combination (= a total of 3) or, where appropriate, uninstall it entirely.
4. Unscrew pump head and take it off.
5. Lift off valve from its seat (visible in pump column after taking off the head).
6. The remaining water between pump and valve combination pours out of the outlets mentioned in item no. 3.
7. Reinsert the black plastic plugs as soon as the pipe is completely empty.

   Reinsert the valve into its seat.
8. Fasten the supplied **winter cover plate** on top of the pump column and, where appropriate, store the valve combination.

After frost period:

1. If the leather gasket at the bottom of the piston housing has hardened during storage; soak it for 24 hours before reinstallation.
2. Unscrew and remove winter plate from water pump column.
3. Where appropriate, reinstall the K&K valve combination.
4. Set water pump head onto water pump column and fix screws.
5. Restart pump operation as described in chapter „Installation“.

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Installation

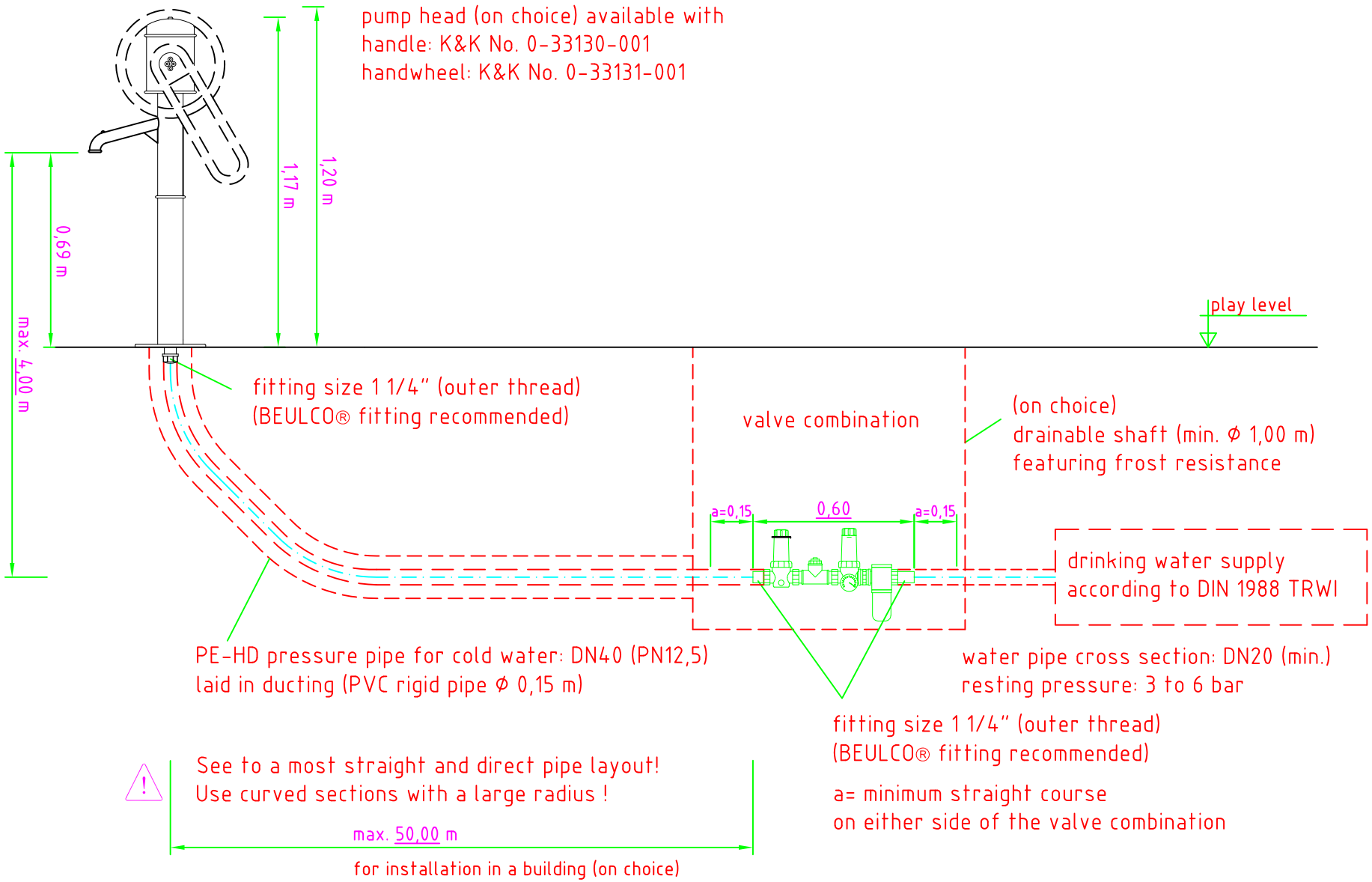
Item No. 03319000

Description K&K Valve combination

Scale 1:20

Date 12/16 EB

Page 1



Valve combination - functional description

TASKS OF THE K&K VALVE COMBINATION

Due to its construction, the K&K handle pump is designed as suction pump. It draws in water from a pressureless water supply such as a well, stream, cistern, tank or ground water and maintains the water column. Furthermore, the expression *suction pump* also means that normal operation within the water bearing containers simply creates a vacuum (below atmospheric pressure) between the level of the water supply and the pump piston.

However, it is increasingly rare to have a pump produce water from natural sources like wells as health authorities particularly state concerns. Notabene: To our knowledge, there is no nationwide regulation concerning the question whether a pump may produce from an existing pressureless tank or if it has to be connected to a pressurised water pipe.

Without additional technical support, the water pump connection to a pressurised water pipe leads to a constant, not adjustable water flow which disables the actual pumping process. The pump could in that case be compared with an open water tap.

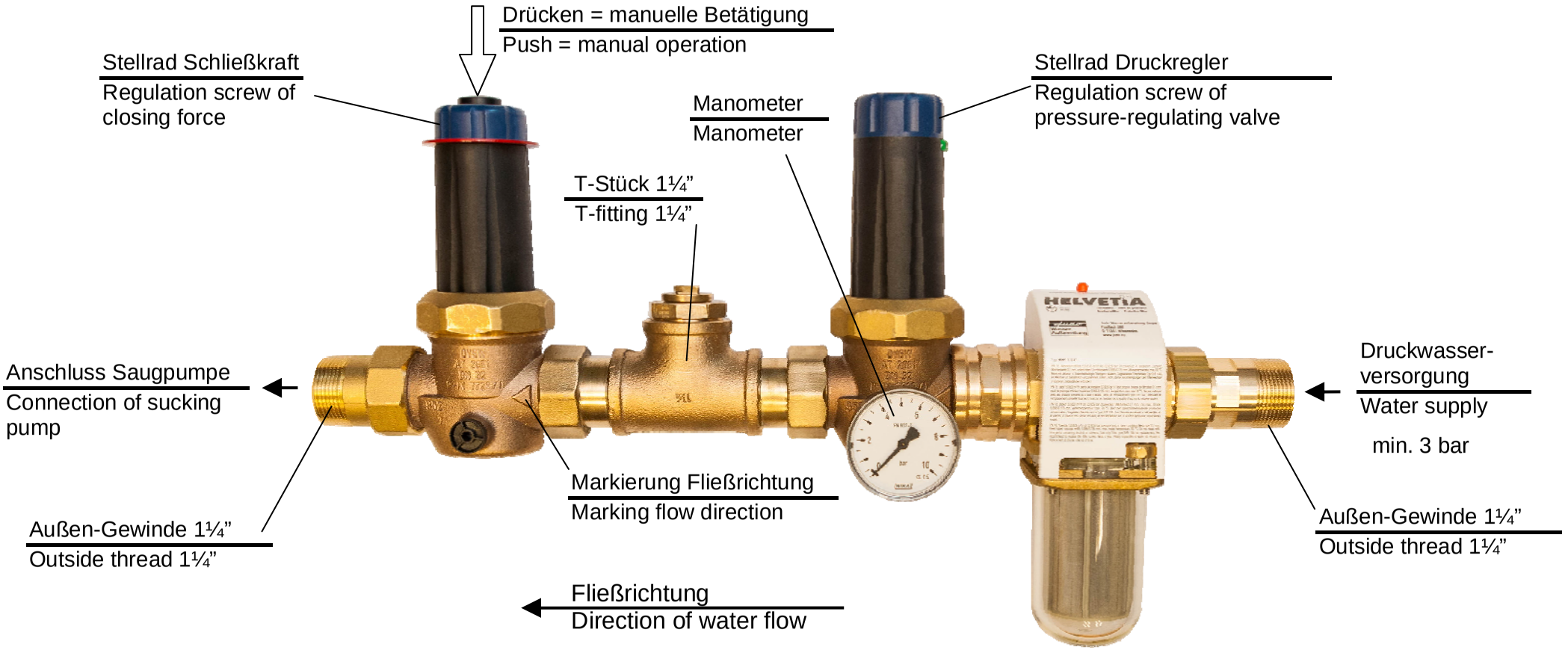
Therefore, a K&K valve combination is an absolutely necessary technical interface for the operation of a K&K water pump connected to a pressurised water pipe. It stops water flow with an idle handle, but will release the amount of water which corresponds to the swept volume after handle operation

STRUCTURE OF THE K&K VALVE COMBINATION

The K&K valve combination substantially consists of three commercial components:

- a fine filter to protect the subsequent valves from dirt within the pipes
- a controllable pressure reducing valve 1¼ ''
  incl. a manometer for prevailing pressure display
- a controllable pressure reducing valve 1¼'' modified by K&K
  to serve as vacuum valve

In addition, please compare the illustration on the next page!



Unterdruckventil (regelbar)
Vacuum valve (controllable)
Art.-Nr. 1040765

Druckminderventil (regelbar)
Pressure reducing valve (controllable)
Art.-Nr. 3990034

Feinfilter
Fine filter
Art.-Nr. 3990039

Art.-Nr. 0-33190-000A
K&K Ventilkombination
K&K Valve combination

Kaiser & Kühne Freizeitgeräte

TASKS OF THE K&K VALVE COMBINATION

In water flow direction, a pressure reducing valve is subsequently positioned to the fine filter to reduce the water supply arriving at an undefined pressure (however, 3,0 bar at least) to a constant pressure of 3,0 bar which is necessary for a correct function.

The manometer situated at the same component helps to control the operating pressure. It displays water pressure between the pressure reducing valve and the subsequent vacuum valve - which does not refer to the pressure ahead of the pressure reducing valve!

The following component in water flow direction is a **vacuum valve** which takes over the proper task of the valve combination.
In its original state, it has been the same pressure reducing valve as described above. It serves as a vacuum valve because of the modifications by K&K. The processing features visible (modified plastic parts) come from the adaptation by K&K. It represents a deliberately modified component to facilitate an altered feature.

The preset spring force may need to be adjusted by turning the blue knob when it should cause the pump to drip. The sense of rotation (+/-) can be seen on the valve.

In summary, the function of the valve combination can be described as follows:
There is vacuum pressure between pump piston and vacuum valve, when the K&K water pump is operated after proper installation subsequently to the vacuum valve, in accordance with the K&K installation instructions and the maximum distances indicated
Consequently, the vacuum valve will open as soon as the vacuum produced exceeds the clamping force of the spring; once the vacuum decreases, the valve will close once more and stop water flow.

PROPER FUNCTION

A proper function is only guaranteed in case fundamental principles in the range of water installation are focused on during installation, operation and maintenance.

- tightness of the connecting components
- ensure cleanliness of the water (fine filter!)
- compliance with water supply pressure (3,0 bar at least)
- compliance with maximum level difference and horizontal distance between valve combination and water pump
- sufficient cross sections. Above all, the supply pipe for the valve combination must continuously provide a nominal diameter of DN 40, any cross section reduction may affect the function of the pump!
- proper installation of the valve combination in water flow direction
- precise water pressure adjustment at the pressure reducing valve (ahead of the vacuum valve)
- adjustment of the closing force of the vacuum valve in the event that the pump "drips"

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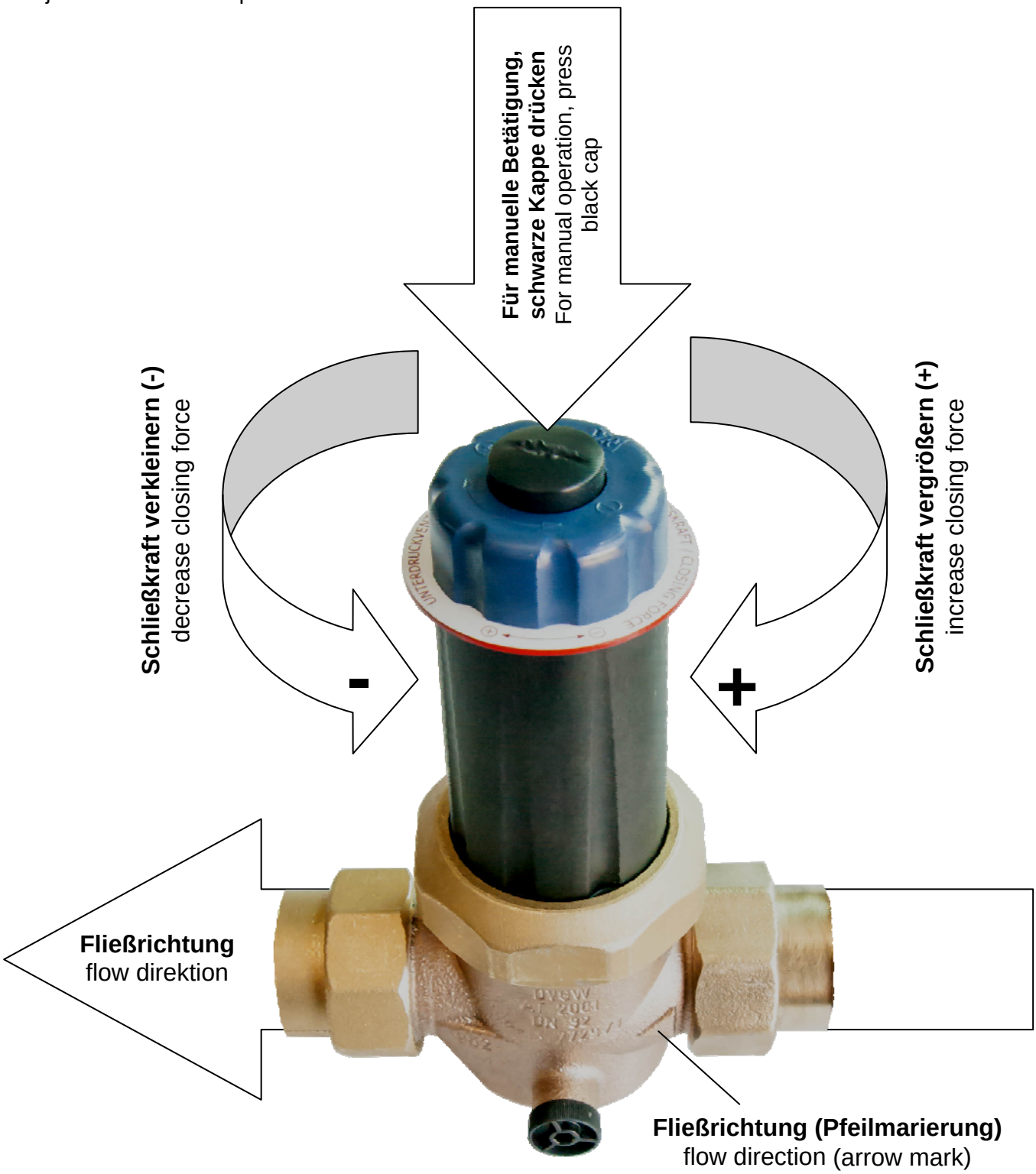
Einstellung Unterdruckventil

Adjustment of the low pressure valve



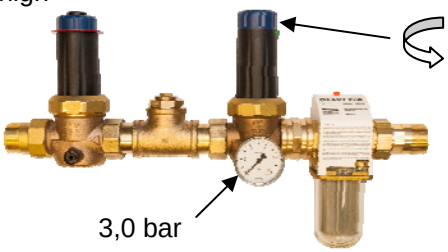
Schließkraft erhöhen (+), bis Pumpe aufhört zu tropfen.

Increase closing force (+) until the pump stops dripping.

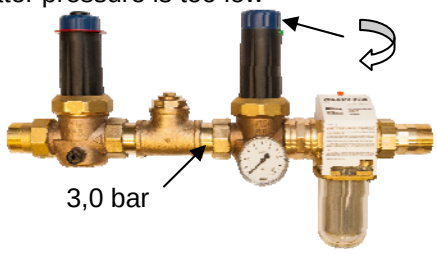
K&K Unterdruckventil / Low pressure valve

(Teil der K&K Ventilkombination / part of K&K valve combination 0-33190A-000)

Defect analysis

Defect	Cause	Remedy
1. Pump is dripping resp. current water flow out of pump	• Adjustment of closing force of vacuum valve is too low 	• Increase closing force of vacuum valve by turning in direction "+"
	• Valve combination is polluted 	• Clean fine filter; if necessary, dismantle valve combination and clean it
	• Pressure at valve combination is too high 	• Reduce pressure, 3 bar required
2. Pump handle strikes back	• Pump stroke too large/volume flow too high	• Adjust pump stroke/volume flow (see enclosed description)
	• Adjustment of closing force of vacuum valve is too low 	• Decrease closing force of vacuum valve by turning in direction "-"
	• Air in pipes	• Evacuate the air from the pipes
	• Installation dimensions (maximum distances) neglected	• Check distances according to enclosed technical drawing
	• Pipes blocked, distorted or squeezed (e.g. by a vehicle pass over)	• Check pipes for free flow
	• Installation with a clock timer: pump operation in switch-off time	• Adapt circuit times (necessarily add K&K Pump latch - item no. 1040639)

Defect analysis

Defect	Cause	Remedy
3. The pump does not take water and can be operated with unusually low effort	• Pump not filled with water	• Operate the low pressure valve by hand, until water leaks from the pump
	• Pump draws air due to leakage in pipe system	• Check pipe system for leaks
	• Water pressure is too low 	• Increase pressure, 3 bar required
	• Hardened or worn leather gasket at pump piston	• Soak leather gasket for 24 hours or replace it
4. Pressure shocks in piping system	• no separate connection	• create separate connection • Water hammer damping by means of expansion vessel (no. 3990096)