ELECTRONIC DEMAND CONTROL SOFTENERS

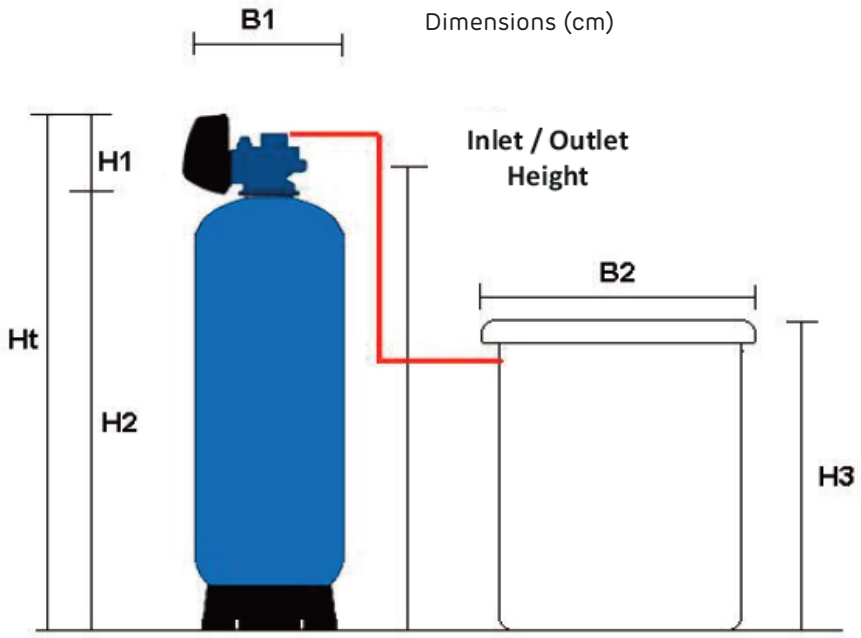
HIGH
CAPACITY

Monarch EDC 1”

Electronic Demand Control Softeners

High efficiency, high capacity water softeners.

Dimensions (cm)



model	valve H1	vessel H2	brine tank H3	softener Ht	Inlet / Outlet Ht	vessel B1	brine tank B2	weight (*) kg
EDC 20/44	19	89	44	108	74	22	32sq	27
EDC 30/44	19	89	89	108	94	27	32sq	40
EDC 40/44	19	112	84	131	117	27	44sq	50
EDC 50/44	19	139	84	158	144	27	44sq	65
EDC 60/44	19	123	84	142	128	32	44sq	75
EDC 75/44	19	140	83	159	145	34	67ø	90
EDC 100/44	19	168	83	187	173	37	67ø	118
EDC 125/44	19	168	83	187	173	37	67ø	140

All measurements can vary due to the cooling process during manufacture of the vessels and brine tanks.
(*) Estimated weight of the system without water or salt.

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General conditions for installation

Connection IN & OUT:	1″ male (1.25″ available on request)
Option side mount:	N/A
Drain connection(*):	3/4" or 1" for DLFC flows over 10 gpm
Electrical rating:	230V 50Hz 12V Transformer
max power rating:	6W
IP protection class:	Double isolated transformer
Minimum inlet pressure :	200 kPa (2 bar)
Maximum inlet pressure:	600 kPa (6 bar)
Vacuum:	no allowance
Average pressure loss (**):	100 kPa (1 bar)
Min-max water temperature:	5-35°C

Remarks

(*) Dependant on Drain line flow control.

(**) Under normal circumstances.

It is always recommended to install a 25µ cartridge filter before a softener.

Resin

Type	: Strong acid cation resin - softening ,food grade quality
Life span	: 15 years under normal circumstances

Ion exchange (for average salt consumption of 150 g/L)

litres of resin	20	30	40	50	60	75	100	125
Capacity kg $CaCO_3$	1	1.5	2	2.5	3	3.8	5	6.3
M³ @ 300ppm	3.3	5	6.6	8.3	10	13	17	21
Salt consumption Kg / Regen	3	4.5	6	7.5	9	11	15	19

Regeneration

Start : Default Time 2:00 am, set on the timer as (delayed regeneration)
Options : TIME - VOLUME - IMMEDIATE - DELAYED
- DAYS OVERRIDE and manual regeneration.

Total time min :	67	79	71	81	73	75	97	97

Remarks When sizing an EDC softener, the interval between regenerations should not be more than 4 days, to prevent tracking of water through the vessel.

Flow rate

	litres of resin	20	30	40	50	60	75	100	125
Nominal	m³/h	0.8	1.2	1.6	2.0	2.4	3.0	4.0	5.0
Minimum	L/h	60							

Consumption of rinse water

	litres of resin	20	30	40	50	60	75	100	125
1.Backwash	litres	32	52	52	52	74	95	95	95
2.Brining + Slow	litres	67	124	102	110	153	188	263	246
4.Fast rinse	litres	39	62	62	62	89	114	114	114
Total (***)	litres	138	238	216	224	316	397	472	455

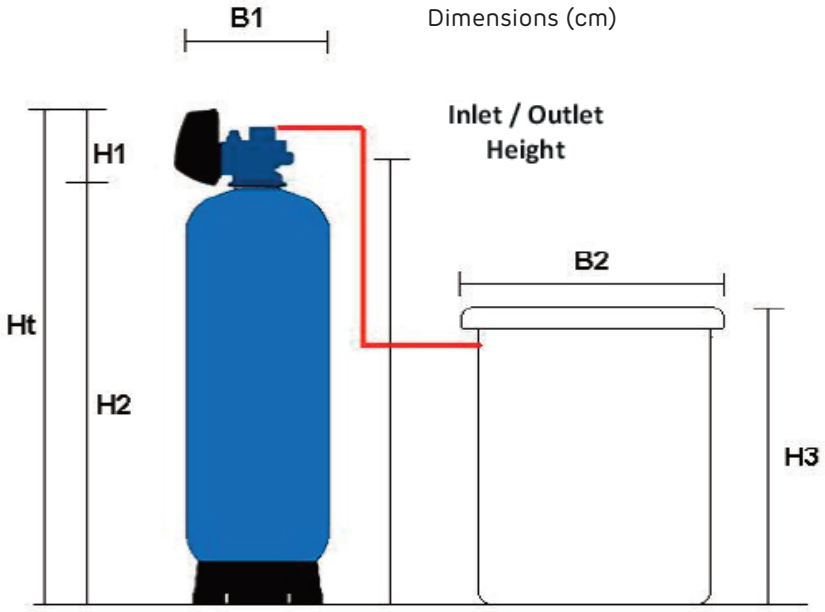
(***) Figures based on 60PSI pressure.

Peak flow rates: 1 litre of resin will give 1 litre of soft water per minute.
i.e. multiply litres of resin by 60 to get peak L/h

Monarch EDC 1.25”

Electronic Demand Control Softeners

High efficiency, high capacity water softeners.



model	valve H1	vessel H2	brine tank H3	softener Ht	Inlet / Outlet	vessel B1	brine tank B2	weight (*) kg
EDC 75/54	19	140	83	159	145	34	67ø	90
EDC 100/54	19	168	83	187	173	37	67ø	118
EDC 125/54	19	168	83	187	173	37	67ø	140
EDC 150/54	19	167	101	186	172	41	76ø	175
EDC 200/54	19	179	93	198	184	51	87ø	230

(*) Estimated weight of the system without water or salt.
(**) Sizes may vary dependant on components used and should only be used as a guide.

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ELECTRONIC DEMAND CONTROL SOFTENERS

General conditions for installation

Connection IN & OUT:	1.25″ male
Option side mount:	N/A
Drain connection(*):	3/4" or 1" for DLFC flows over 10 gpm
Electrical rating:	230V 50Hz 12V Transformer
Max power rating:	6W
IP protection class:	Double isolated transformer
Minimum inlet pressure :	200 kPa (2 bar)
Maximum inlet pressure:	600 kPa (6 bar)
Vacuum:	no allowance
Average pressure loss (**):	100 kPa (1 bar)
Min-max water temperature:	5-35°C

Remarks

(*) Dependant on Drain line flow control.

(**) Under normal circumstances.

It is always recommended to install a 25µ cartridge filter before a softener.

Resin

Type	: Strong acid cation resin - softening ,food grade quality
Life span	: 15 years under normal circumstances

Ion exchange (for average salt consumption of 150 g/L)

litres of resin	75	100	125	150	200
Capacity kg $CaCO_3$	3.8	5	6.3	7.5	10
M^3 @ 300ppm	13	17	21	25	33
Salt consumption kg / regen.	11	15	19	22.5	30

Regeneration

start : Default Time 2:00 am, set on the timer as (delayed regeneration)
Options : TIME - VOLUME - IMMEDIATE - DELAYED
- DAYS OVERRIDE and manual regeneration.

total time min :	75	97	97	82	95

Remarks When sizing an EDC softener, the interval between regenerations should not be more than 4 days, to prevent tracking of water through the vessel.

Flow rate

litres of resin		75	100	125	150	200
nominal	M^3/h	3.0	4.0	5.0	6.0	8.0
minimum	L/h	60				

Consumption of rinse water

	litres of resin	75	100	125	150	200
1.Backwash	litres	95	95	95	132	170
2.Brining + Slow	litres	188	263	246	282	440
4.Fast rinse	litres	114	114	114	159	204
Total ***	litres	**397**	**472**	**455**	**573**	**814**

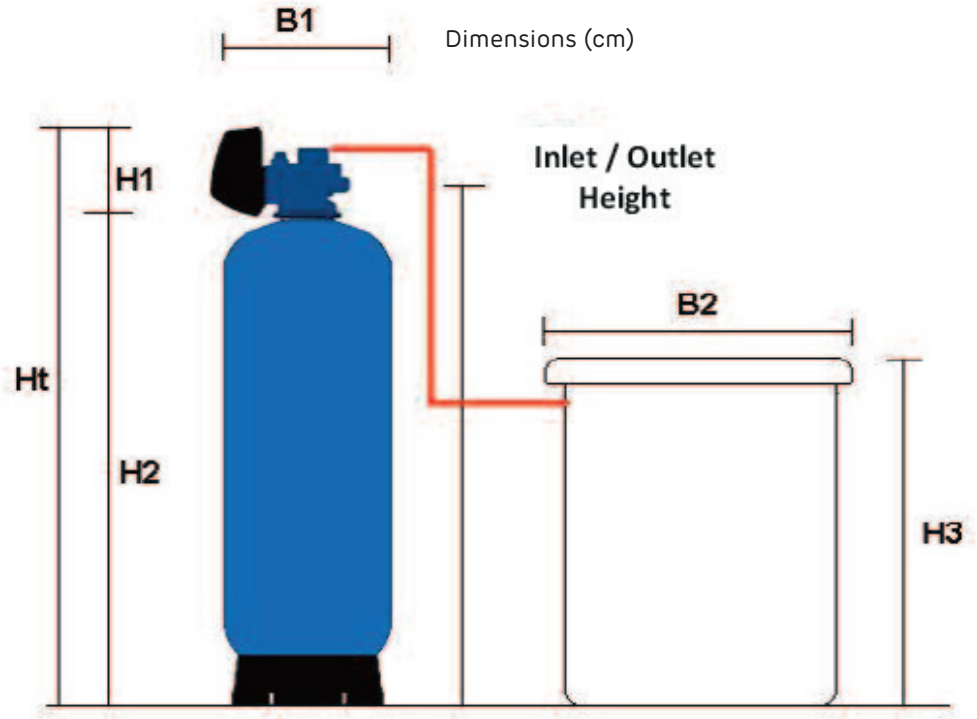
Peak flow rates: 1 litre of resin will give 1 litre of soft water per minute.
i.e. multiply litres of resin by 60 to get peak L/h

Monarch EDC 1.5”

Electronic Demand Control Softeners

High efficiency, high capacity water softeners.

Dimensions (cm)



model	valve H1	vessel H2	brine tank H3	softener Ht	Inlet / Outlet	vessel B1	brine tank B2	weight (*) kg
EDC 75/64	20	167	83	187	172	37	67ø	190
EDC 100/64	20	167	83	187	172	37	67ø	210
EDC 150/64	20	168	101	188	172	41	76ø	230
EDC 200/64	20	179	101	199	187	51	76ø	230
EDC 250/64	20	163	101	183	171	56	76ø	275
EDC 350/64	20	188	111	208	196	61	100ø	734
EDC 500/64	20	188	129	208	196	61	107ø	734

(*) Estimated weight of the system without water or salt.
(**) Sizes may vary dependent on components used and should only be used as a guide.

General conditions for installation

Connection IN & OUT:	1.5" female
Option side mount:	N/A
Drain connection(*):	3/4", 1" or 1.25" Dependent on flow
Electrical rating:	230V 50Hz 12V Transformer
Max power rating:	6W
IP protection class:	Double isolated transformer
Minimum inlet pressure :	200 kPa (2 bar)
Maximum inlet pressure:	600 kPa (6 bar)
Vacuum:	no allowance
Average pressure loss (**):	100 kPa (1 bar)
Min-max water temperature:	5-35°C

Remarks

(*) Dependant on Drain line flow control.

(**) Under normal circumstances.

It is always recommended to install a 25µ cartridge filter before a softener.

Resin

Type : Strong acid cation resin - softening ,food grade quality

Life span : 15 years under normal circumstances

Ion exchange (for average salt consumption of 150 g/L)

litres of resin		75	100	150	200	250	350	500
Capacity kg $CaCO_3$		3.8	5.0	7.5	10.0	12.5	17.5	25.0
M^3 @ 300ppm		12.5	16.7.	25.0	33.0	41.6	58.3	83.3
salt consumption	kg / regen.	11.3	15.0	22.5	30.0	37.5	52.5	75.0

Regeneration

Start : Default Time 2:00 am, set on the timer as (delayed regeneration)
Options : TIME - VOLUME - IMMEDIATE - DELAYED
- DAYS OVERRIDE and manual regeneration.

Total time min :	77	94	82	95	72	94	85

Remarks When sizing an EDC softener, the interval between regenerations should not be more than 4 days, to prevent tracking of water through the vessel.

Flow rate

litres of resin		75	100	150	200	250	350	500
nominal	m^3/h	3.0	4.0	6.0	8.0	10.0	14.0	20.0
minimum	L/h	120.00						

Consumption of rinse water

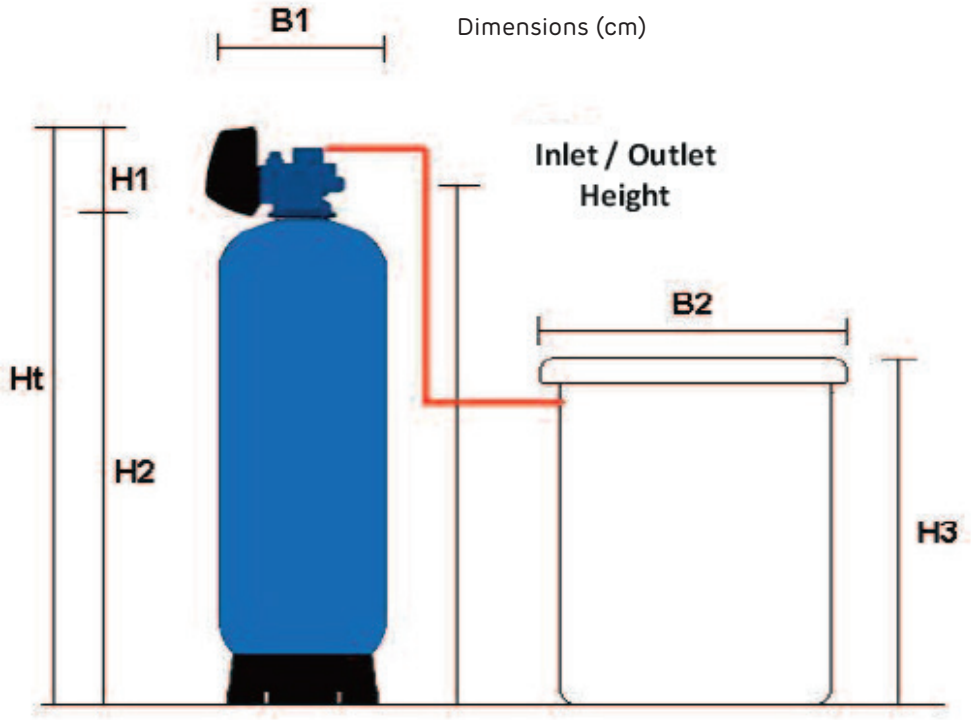
litres of resin		75	100	150	200	250	350	500
1.Backwash	litres	80	95	132	170	246	310	470
2.Brining + Slow	litres	238	258	282	528	972	752	1197
4.Fast rinse	litres	60	80	159	204	295	450	950
total	litres	378	433	573	902	1513	1512	2617

Peak flow rates: 1 litre of resin will give 1 litre of soft water per minute.
i.e. multiply litres of resin by 60 to get peak L/h

Monarch EDC 2”

Electronic Demand Control Softeners

High efficiency, high capacity water softeners.



model	valve H1	vessel H2	brine tank H3	softener Ht	Inlet / Outlet	vessel B1	brine tank B2	weight (*) kg
EDC 200/84	22	179	101	201	187	51	76ø	240
EDC 250/84	22	163	101	185	171	56	76ø	285
EDC 350/84	22	188	124	210	200	61	87ø	400
EDC 500/84	22	205	124	227	217	77	87ø	555
EDC 700/84	22	215	111	237	227	93	100ø	747

(*) Estimated weight of the system without water or salt.
(**) Sizes may vary dependent on the components used and should be only used as a guide.

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ELECTRONIC DEMAND CONTROL SOFTENERS

General conditions for installation

Connection IN & OUT:	2" female
Option side mount:	N/A
Drain connection(*):	1" for DLFC 10 - 25gpm 1.25" 0ver 25gpm
Electrical rating:	230V 50Hz 12V Transformer
Max power rating:	6W
IP protection class:	Double isolated transformer
Minimum inlet pressure :	200 kPa (2 bar)
Maximum inlet pressure:	600 kPa (6 bar)
Vacuum:	no allowance
Average pressure loss (**):	100 kPa (1 bar)
Min-max water temperature:	5-35°C

Remarks

(*) Dependant on Drain line flow control.

(**) Under normal circumstances.

It is always recommended to install a 25µ cartridge filter before a softener.

Resin

Type	: Strong acid cation resin - softening ,food grade quality
Life span	: 15 years under normal circumstances

Ion exchange (for average salt consumption of 150 g/L)

	litres of resin	200	250	350	500	700
capacity	kg $CaCO_3$	10.0	12.5	17.5	25	35
	m^3 @ 300ppm	33.0	41.6	58.3	83.3	117
salt consumption	kg / regen.	30.0	37.5	52.5	75	105

Regeneration

Start : Default Time 2:00 am, set on the timer as (delayed regeneration)
Options : TIME - VOLUME - IMMEDIATE - DELAYED
- DAYS OVERRIDE and manual regeneration.

Total time min :	82	95	77	92	83

Remarks When sizing an EDC softener, the interval between regenerations should not be more than 4 days, to prevent tracking of water through the vessel.

Flow rate

	litres of resin	200	250	350	500	700
nominal	m^3/h	8.0	10.0	14.0	20.0	28.0
minimum	L/h	342				

Consumption of rinse water

	litres of resin	200	250	350	500	700
1.Backwash	litres	170	246	247	378	660
2.Brining + Slow	litres	528	972	803	1488	1638
4.Fast rinse	litres	204	295	295	454	795
total	litres	902	1513	1345	2320	3093

Peak flow rates: 1 litre of resin will give 1 litre of soft water per minute.
i.e. multiply litres of resin by 60 to get peak L/h

Softeners up to 3" available

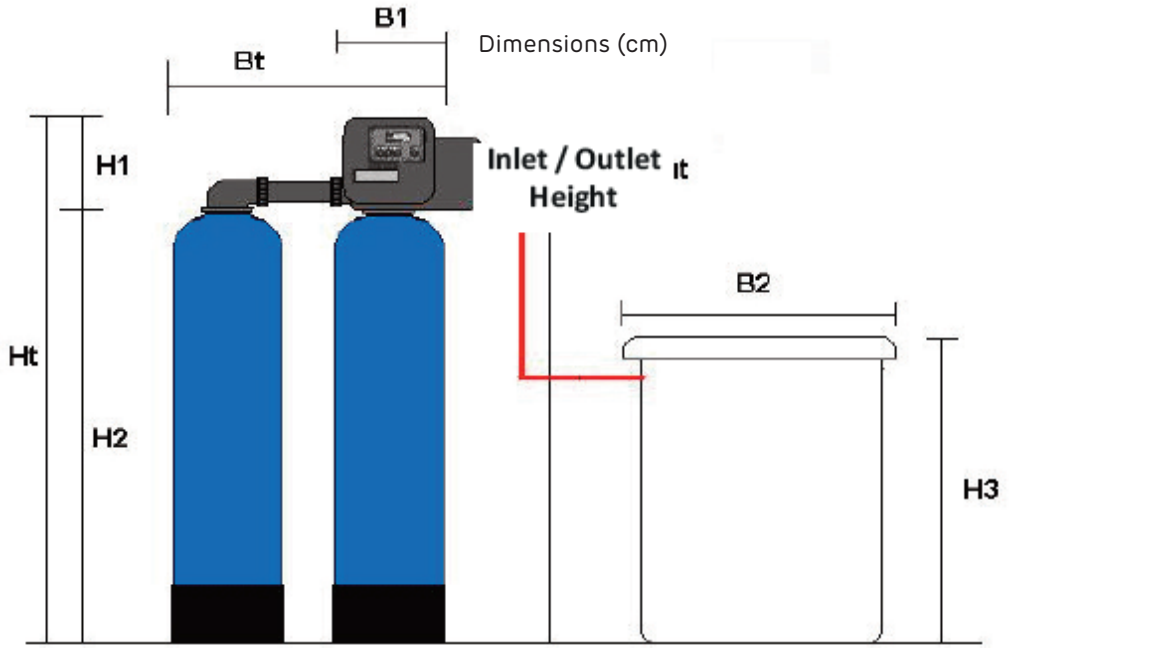
ALTERNATING DUPLEX / DUPLEX STANDBY SOFTENER

HIGH
CAPACITY

Monarch DS 1”

Alternating Duplex/Duplex Standby (DS)

High efficiency, high capacity water softeners.



model	valve H1	vessel H2	brine tank H3	softener Ht	Connection Ht	vessel B1	softener Bt	brine tank B2	weight (*) kg
DS 10/44	19	42	44	61	47	22	45	32 sq	35
DS 20/44	19	89	84	108	94	22	45	44 sq	56
DS 30/44	19	89	84	108	94	27	64	44 sq	75
DS 40/44	19	112	84	131	117	27	64	44 sq	96
DS 50/44	19	139	84	158	144	27	64	44 sq	115
DS 60/44	19	123	83	142	128	32	77	67ø	147
DS 75/44	19	140	101	159	145	34	80	76ø	180
DS 100/44	19	168	93	187	173	37	92	87ø	235
DS 125/44	19	168	93	187	173	37	92	87ø	280
DS 150/44	19	167	124	186	172	41	96	87ø	340
DS 200/44	19	179	124	198	184	51	119	87ø	440

(*) total weight of the unit without water or filled brine tank

(**) sizes may vary dependant on components used and should only be used as a guide.

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General conditions for installation

Connection IN & OUT:	1" male
Option side mount:	N/A
Drain connection(*):	3/4" or 1" for DLFC flows over 10 gpm
Electrical rating:	230V 50Hz 12V Transformer
max power rating:	6W
IP protection class:	Double isolated transformer
Minimum inlet pressure :	200 kPa (2 bar)
Maximum inlet pressure:	600 kPa (6 bar)
Vacuum:	no allowance
Average pressure loss (**):	100 kPa (1 bar)
Min-max water temperature:	5-35°C

Remarks
(*) Dependant on Drain line flow control.
(**) Under normal circumstances.

Resin

Type:	Strong acid cation resin - softening ,food grade quality
Life span:	15 years under normal circumstances

Ion exchange (for average salt consumption of 150 g/L)

Litres of resin	10	20	30	40	50	60	75	100	125	150	200
Capacity Kg $CaCO_3$	0.5	1	1.5	2	2.5	3	3.8	5	6.3	7.5	10
M^3 @ 300ppm	1.6	3.3	5	6.6	8.3	10	13	17	21	25	33
Salt consumption	1.5	3	4.5	6	7.5	9	11	15	19	23	30

Regeneration

Alternating Duplex (Duty Standby) Total time:

Total time min :	65	65	79	71	81	73	75	97	97	82	95

Remarks When sizing a duplex softener, the interval between regenerations should not be more frequent than every 6 hours, to allow brine creation. Additionally, the interval between regenerations should not be more than 4 days, to prevent tracking of water through the vessel. In all cases, BV exchange should be considered in conjunction with the regeneration frequency calculated.

Flow rate

Litres of resin		10	20	30	40	50	60	75	100	125	150	200
Nominal	M^3/h	0.4	0.8	1.2	1.6	2	2.4	3	4	5	6	6.4
Minimum	L/h	60	60	60	60	60	60	60	60	60	60	60

Consumption of rinse water

C

Litres of resin	10	20	30	40	50	60	75	100	125	150	200
1.Backwash	32	32	52	52	52	74	95	95	95	132	170
2.Brining + Slow rinse	72	67	124	102	110	153	188	263	246	282	440
4.Fast rinse	39	39	62	62	62	89	114	114	114	159	204
Total ***	**143**	**138**	**238**	**216**	**224**	**316**	**397**	**472**	**455**	**573**	**814**

(***) Figures based on 60 PSI pressure.

10/12/2018

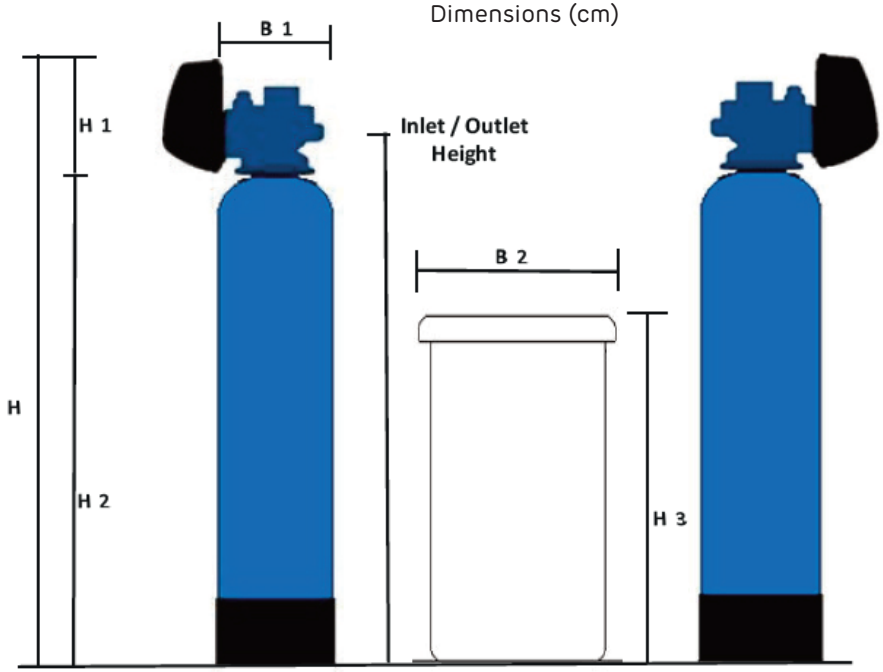
Peak flow rates: 1 litre of resin will give 1 litre of soft water per minute.
i.e. multiply litres of resin by 60 to get peak L/h

Monarch DS 1.25”

Alternating Duplex/Duplex Standby (DS)

High efficiency, high capacity water softeners.

Dimensions (cm)



model	valve H1	vessel H2	brine tank H3	softener Ht	Inlet / Outlet	vessel B1	brine tank B2	weight (*) kg
DS 75/54	19	140	101	159	145	34	76ø	166
DS 100/54	19	168	87	187	173	37	93ø	210
DS 125/54	19	168	87	187	173	37	93ø	232
DS 150/54	19	167	124	186	172	41	87ø	316
DS 200/54	19	179	124	198	184	51	87ø	410

(*) Estimated weight of the system without water or salt.
(**) Sizes may vary dependant on components used and should only be used as a guide.

General conditions for installation

Connection IN & OUT:	1.25" male
Option side mount:	N/A
Drain connection(*):	3/4" or 1" for DLFC flows over 10 gpm
Electrical rating:	230V 50Hz 12V Transformer
Max power rating:	6W
IP protection class:	Double isolated transformer
Minimum inlet pressure :	200 kPa (2 bar)
Maximum inlet pressure:	600 kPa (6 bar)
Vacuum:	no allowance
Average pressure loss (**):	100 kPa (1 bar)
Min-max water temperature:	5-35°C

Remarks

(*) Dependant on Drain line flow control.

(**) Under normal circumstances.

It is always recommended to install a 25µ cartridge filter before a softener.

Resin

Type	: Strong acid cation resin - softening ,food grade quality
Life span	: 15 years under normal circumstances

Ion exchange (for average salt consumption of 150 g/L)

litres of resin	75	100	125	150	200
Capacity kg $CaCO_3$	3.8	5	6.3	7.5	10
M^3 @ 300ppm	13	17	21	25	33
Salt consumption kg / regen.	11	15	19	22.5	30

Regeneration

Alternating Duplex (Duty Standby) Total time:

total time min :	75	97	97	82	95

Remarks When sizing a duplex softener, the interval between regenerations should not be more frequent than every 6 hours, to allow brine creation. Additionally, the interval between regenerations should not be more than 4 days, to prevent tracking of water through the vessel. In all cases, BV exchange should be considered in conjunction with the regeneration frequency calculated.

Flow rate

litres of resin		75	100	125	150	200
nominal	M^3/h	3.0	4.0	5.0	6.0	8.0
minimum	L/h	60				

Consumption of rinse water

litres of resin		75	100	125	150	200
1.Backwash	litres	95	95	95	132	170
2.Brining + Slow rinse	litres	188	263	246	282	440
4.Fast rinse	litres	114	114	114	159	204
Total ***	litres	**397**	**472**	**455**	**573**	**814**

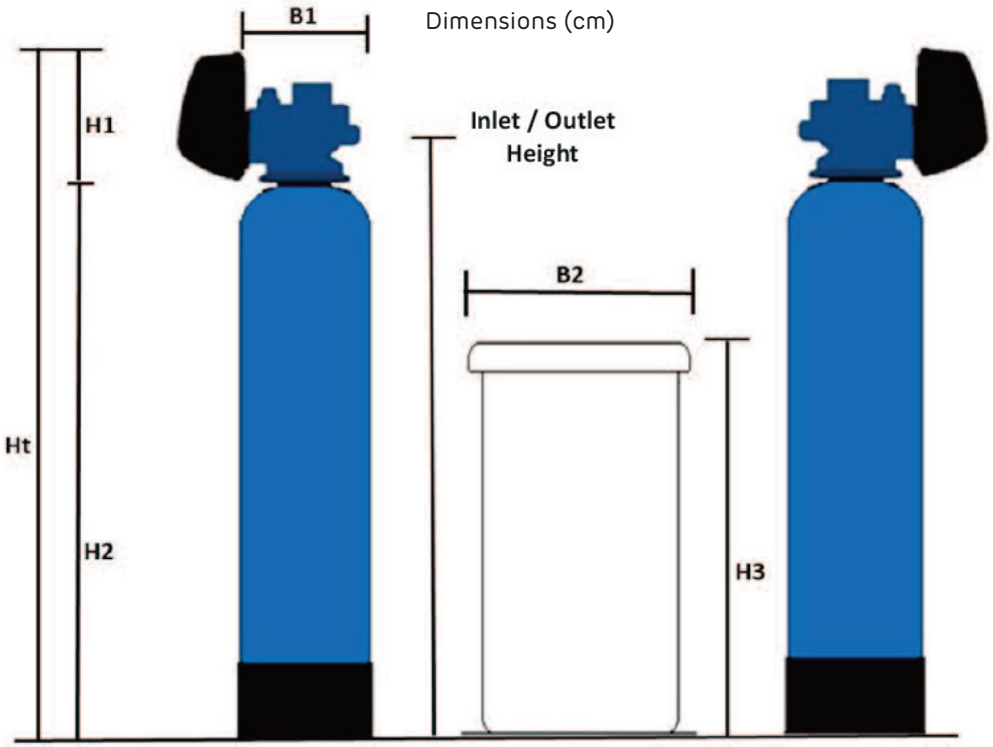
(***) Figures based on 60 PSI pressure.

Peak flow rates: 1 litre of resin will give 1 litre of soft water per minute.
i.e. multiply litres of resin by 60 to get peak L/h

Monarch DS 1.5”

Alternating Duplex/Duplex Standby (DS)

High efficiency, high capacity water softeners.



model	valve H1	vessel H2	brine tank H3	softener Ht	IN&OUT	vessel B1	brine tank B2	weight (*) kg
DS 75/64	20	167	83	187	172	37	67ø	250
DS 100/64	20	167	101	187	172	56	76ø	275
DS 150/64	20	168	111	208	196	61	100ø	375
DS 200/64	20	179	124	199	187	51	87ø	450
DS 250/64	20	163	111	183	171	56	100ø	461
DS 350/64	20	188	111	208	196	61	100ø	534
DS 500/64	20	188	129	208	196	61	107ø	734

(*) Estimated weight of the system without water or salt.
(**) Sizes may vary dependent on components used and should only be used as a guide.

Onsite **build & commissioning** service available call 01986 784759

General conditions for installation

Connection IN & OUT:	1.5" female
Drain connection(*):	3/4", 1" or 1.25" dependent on flow
Electrical rating:	230V 50Hz 12V transformation
Max power rating:	6W
IP protection class:	Double isolated transformer
Minimum inlet pressure :	200 kPa (2 bar)
Maximum inlet pressure:	600 kPa (6 bar)
Vacuum:	No allowance
Average pressure loss (**):	100 kPa (1 bar)
Min-max water temperature:	5-35°C

Remarks

(*) Dependent on Drain line flow control.

(**) Under normal circumstances - it is always recommended to install a 25µ-cartridge filter

Resin

Type	: Strong acid cation resin - softening ,food grade quality
Life span	: 15 years under normal circumstances

Ion exchange (for average salt consumption of 150 g/L)

	litres of resin	75	100	150	200	250	350	500
capacity	kg $CaCO_3$	3.8	5.0	7.5	10.0	12.5	17.5	25.0
	M^3 @ 300 ppm	12.5	16.7.	25.0	33.0	41.6	58.3	83.3
salt consumption	kg salt/regen.	11.3	15.0	22.5	30.0	37.5	52.5	75.0

Regeneration

Alternating Duplex (Duty Standby)

Total time:	77	94	82	95	72	94	85

Remarks When sizing a duplex softener, the interval between regenerations should not be more frequent than every 6 hours, to allow brine creation. Additionally, the interval between regenerations should not be more than 4 days, to prevent tracking of water through the vessel. In all cases, BV exchange should be considered in conjunction with the regeneration frequency calculated.

Flow rate

	litres of resin	75	100	150	200	250	350	500
nominal	m^3/h	3.0	4.0	6.0	8.0	10.0	14.0	20.0
minimum	L/h	120.00						

Consumption of rinse water

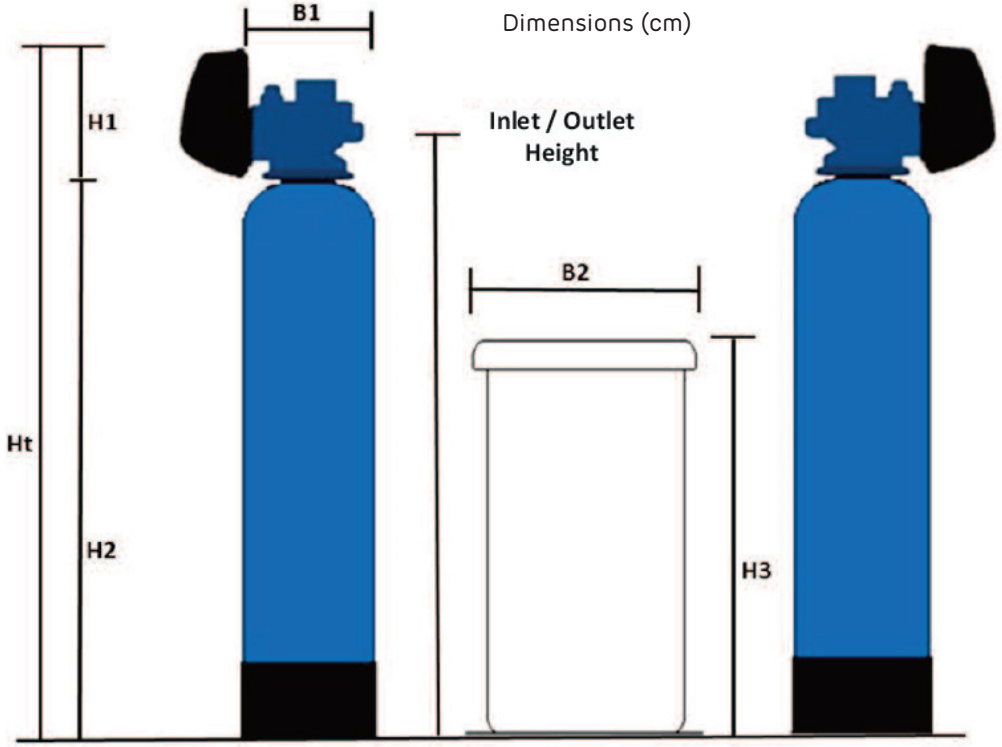
	litres of resin	75	100	150	200	250	350	500
1.Backwash	litres	80	95	132	170	246	310	470
2.Brine/Slow Rinse	litres	238	258	282	528	972	752	1197
4.Fast rinse	litres	60	80	159	204	295	450	950
total	litres	378	433	573	902	1513	1512	2617

Peak flow rates: 1 litre of resin will give 1 litre of soft water per minute.
i.e. multiply litres of resin by 60 to get peak L/h

Monarch DS 2”

Alternating Duplex/Duplex Standby (DS)

High efficiency, high capacity water softeners.



model	valve H1	vessel H2	brine tank H3	softener Ht	Inlet / Outlet	vessel B1	brine tank B2	weight (*) kg
DS 200/84	22	179	124	201	191	61	87ø	460
DS 250/84	22	163	124	185	175	61	87ø	495
DS 300/84	22	188	111	210	200	77	100ø	690
DS 350/84	22	188	111	210	200	61	100ø	772
DS 400/84	22	205	111	227	200	61	100ø	872
DS 500/84	22	205	111	227	217	77	100ø	1109
DS 700/84	22	215	129	237	227	93	107ø	1484

(*) Estimated weight of the system without water or salt.
(**) Sizes may vary dependent on the components used and should only be used as a guide.

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General conditions for installation

Connection IN & OUT:	2" female
Option side mount:	N/A
Drain connection(*):	1" for DLFC 10 - 25gpm 1.25" 0ver 25gpm
Electrical rating:	230V 50Hz 12V Transformer
Max power rating:	6W
IP protection class:	Double isolated transformer
Minimum inlet pressure :	200 kPa (2 bar)
Maximum inlet pressure:	600 kPa (6 bar)
Vacuum:	no allowance
Average pressure loss (**):	100 kPa (1 bar)
Min-max water temperature:	5-35°C

Remarks

(*) Dependent on Drain line flow control.

(**) Under normal circumstances.

It is always recommended to install a 25µ cartridge filter before a softener.

Resin

Type	: Strong acid cation resin - softening ,food grade quality
Life span	: 15 years under normal circumstances

Ion exchange (for average salt consumption of 150 g/L)

	litres of resin	200	250	300	350	400	500	700
Capacity	kg $CaCO_3$	10	12.5	15	18	20	25	35
	m^3 @ 300ppm	33	42	50	59	67	83	117
Salt consumption	kg / regen.	30	38	45	53	56	75	105

Regeneration

Alternating Duplex (Duty Standby)

total time min :	95	72	94	77	85	92	83

Remarks When sizing a duplex softener, the interval between regenerations should not be more frequent than every 6 hours, to allow brine creation. Additionally, the interval between regenerations should not be more than 4 days, to prevent tracking of water through the vessel. In all cases, BV exchange should be considered in conjunction with the regeneration frequency calculated.

Flow rate

	litres of resin	200	250	300	350	400	500	700
nominal	m^3/h	8	10	12	14	16.0	20.0	28.0
minimum	L/h	342						

Consumption of rinse water

	litres of resin	200	250	300	350	400	500	700
1.Backwash	litres	170	246	310	247	285	378	660
2.Brining + Slow	litres	528	972	752	803	920	1488	1638
4.Fast rinse	litres	204	295	450	295	340	454	795
total	litres	902	1513	1512	1345	1550	2320	3093

Peak flow rates: 1 litre of resin will give 1 litre of soft water per minute.
i.e. multiply litres of resin by 60 to get peak L/h

Softeners up to 3" available