UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 11-K

(Mark One)

☑ ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE FISCAL YEAR ENDED December 31, 2011

OR

□ TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES AND EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD FROM

Commission File Number: 000-21835

то

A. Full title of the plan and the address of the plan, if different from that of the issuer named below:

SUN HYDRAULICS CORPORATION 401(K) AND ESOP RETIREMENT PLAN 1500 WEST UNIVERSITY PARKWAY SARASOTA, FLORIDA 34243

B. Name of issuer of the securities held pursuant to the plan and the address of its principal executive office:

SUN HYDRAULICS CORPORATION 1500 WEST UNIVERSITY PARKWAY SARASOTA, FLORIDA 34243

SUN HYDRAULICS CORPORATION 401(K) AND ESOP RETIREMENT PLAN

FINANCIAL STATEMENTS AND SUPPLEMENTAL SCHEDULE AND REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

DECEMBER 31, 2011 AND 2010

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Participants and Administrator of the Sun Hydraulics Corporation 401(k) and ESOP Retirement Plan:

We have audited the accompanying statements of net assets available for benefits of Sun Hydraulics Corporation 401(k) and ESOP Retirement Plan as of December 31, 2011 and 2010, and the related statements of changes in net assets available for benefits for the years then ended. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Plan is not required to have, nor have we been engaged to perform an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets available for benefits of Sun Hydraulics Corporation 401(k) and ESOP Retirement Plan as of December 31, 2011 and 2010, and the changes in net assets available for benefits for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental schedule of assets (held at end of year) is presented for purposes of additional analysis and is not a required part of the basic financial statements, but is supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. This supplemental schedule has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

/s/ Mayer Hoffman McCann P.C.

June 15, 2012 Clearwater, Florida



SUN HYDRAULICS CORPORATION 401(K) AND ESOP RETIREMENT PLAN

STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS

	Decem	ber 31,
	2011	2010
Assets		
Investments at fair value		
Cash timing difference	\$ —	\$ (413)
Common/collective trust fund	8,386,216	7,815,385
Money market fund	332	234
Mutual funds	28,815,593	27,361,274
Self directed brokerage accounts	1,343,595	1,443,599
Sponsor company common stock, non-participant directed	11,241,035	12,460,127
Total investments at fair value	49,786,771	49,080,206
Receivables		
Employer contribution-cash	51	90
Employer contribution-sponsor company common stock	3,753,480	2,192,882
Participants' contribution	51	90
Notes receivable from participants	2,569,301	2,120,688
Total receivables	6,322,883	4,313,750
Net assets available for benefits at fair value	56,109,654	53,393,956
Adjustment from fair value to contract value for fully benefit responsive investment contract	(57,468)	(196,566)
Net assets available for benefits	\$56,052,186	\$53,197,390

The accompanying Notes to the Financial Statements are an integral part of these financial statements.

SUN HYDRAULICS CORPORATION 401(K) AND ESOP RETIREMENT PLAN

STATEMENTS OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS

	Year Ended December 31,	
	2011	2010
Additions to net assets attributed to:		
Investment income		
Net appreciation (depreciation) in fair value of investments	\$(1,154,117)	\$ 7,315,391
Participant loan interest	128,822	129,051
Total investment income (loss)	(1,025,295)	7,444,442
Contributions		
Participant	1,864,311	1,523,058
Employer-cash	1,235,484	1,009,217
Employer-sponsor company common stock, at fair value	3,753,480	2,192,882
Rollovers	128,199	290,594
Total contributions	6,981,474	5,015,751
Total additions	5,956,179	12,460,193
Deductions from net assets:		
Benefits paid to participants	3,074,651	2,837,700
Administrative expenses	26,732	26,573
Total deductions	3,101,383	2,864,273
Net increase	2,854,796	9,595,920
Net assets available for benefits		
Beginning of the year	53,197,390	43,601,470
End of the year	\$56,052,186	\$53,197,390

The accompanying Notes to the Financial Statements are an integral part of these financial statements.

SUN HYDRAULICS CORPORATION 401(K) AND ESOP RETIREMENT PLAN NOTES TO THE FINANCIAL STATEMENTS DECEMBER 31, 2011 AND 2010

1. Description of Plan

The following description of the Sun Hydraulics Corporation 401(k) and ESOP Retirement Plan (f/k/a Sun Hydraulics Corporation Retirement Plan) (the "Plan") provides only general information. Participants should refer to the Plan agreement, as amended, for a more complete description of the Plan's provisions.

General

The Plan became effective January 1, 1979. The Plan is a defined contribution 401(k) plan covering employees of its sponsor, Sun Hydraulics Corporation ("Corporation"), who have completed three months employment and reached the age of 18. Employees may enroll in the Plan effective on the first day of each calendar quarter following their third month of employment. The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA).

During 2004, the Corporation adopted the Employee Stock Ownership Plan ("ESOP"). Under the ESOP, the Corporation may contribute on a discretionary basis company common stock to all employees eligible to participate in the Plan. The ESOP is a non-participant directed investment as the Corporation makes all contributions to the fund.

The sponsor company common stock fund is a share-based stock fund. At December 31, 2011, the fund held 479,771 shares of Sun Hydraulics Corporation common stock with a price of \$23.43 per share as of such date. At December 31, 2010, the fund held 494,450 shares of Sun Hydraulics Corporation common stock with a price of \$25.20 per share as of such date.

The Plan is administered by the Employee Benefits Committee (the "Committee") except in connection with the acquisition, retention or disposition of Corporation stock held by the Plan, with respect to which the Board of Directors retains authority. The Committee is composed of five employees of the Corporation appointed by the Corporation's Board of Directors. Charles Schwab Trust Company (the "Trustee") is the current trustee for the Plan. Schwab Retirement Plan Services, Inc. provides the recordkeeping, accounting, and the telephone and internet exchange features of the Plan.

Contributions

Salary deferral contributions are made by participating employees through payroll deductions in amounts authorized by the employees. The Plan allows participants to make pre-tax contributions from 1% to 100% of their salary not to exceed statutory limits. Pre-tax contributions, of up to 6% of the employee's salary (depending on length of service), are matched by the Corporation. Matching contributions are based on the years of service as listed in the following schedule:

Years of Service	% Match
Less than three years	3%
After three years	4%
After five years	5%
After seven or more years	6%

Additional contributions may be made by the Corporation on a discretionary basis. During 2011 and 2010, the Corporation contributed \$3,753,480 and \$2,192,882, respectively, to the ESOP in the form of company stock. The contributions in 2011 and 2010 are shown as a contribution receivable for that plan year.

Participant Accounts

Each participant's account is credited with the participant's contribution, any employer contribution and an allocation of Plan earnings or losses. Allocations are based on the participant's account balance.

Vesting

Participants are immediately vested in their voluntary contributions plus actual earnings thereon. Participants are vested in employer matching contributions and discretionary employer ESOP contributions based upon years of service defined in the Plan, as follows:

Years of Service	Vesting %
Less than 1	0%
1	20%
2	40%
3	60%
4	80%
5 or more	100%

Payment of Benefits

If a participant ceases to be employed by the Corporation for any reason other than death or total and permanent disability, prior to satisfying the age and service requirements for early or normal retirement, the terminated participant may elect to receive lump-sum or periodic payments of the participant's vested account balance. Withdrawals may be subject to tax withholdings and penalties.

Benefits may be paid upon death, disability, termination or retirement to the participants or their beneficiaries, in lump-sum amounts or periodic payments. Under certain circumstances, hardship withdrawals are allowed from the Plan.

Investment Options

The participants, upon enrollment in the Plan, elect to invest their contributions, in multiples of five (5) % increments, in the investment options provided by the Plan. Initial investments in sponsor company common stock is not a participant directed investment option.



Notes Receivable From Participants

A participant may receive a loan based on the loan program set forth by the Plan. The minimum loan is \$1,000 and the maximum is \$50,000, not to exceed 50% of the participant's vested account balance. Loans are repaid through payroll deductions over a maximum of five (5) years. A participant can have only one loan outstanding. Current loans bear interest at rates between 5.25% and 10.25%.

Plan Expenses

The Plan pays the account administrative service fee from income earned by the Plan. The Corporation pays the legal and accounting fees, and other expenses on behalf of the Plan.

Forfeitures

At December 31, 2011 and 2010, forfeited nonvested accounts totaled \$3,889 and \$3,201, respectively. Account balances will revert back to the Plan and will be used to pay reasonable administrative expenses of the Plan; any excess will be used to reduce the employer's matching contributions.

2. Summary of Accounting Policies

Basis of Accounting

The accompanying financial statements are presented on the accrual basis of accounting.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and changes therein, and disclosure of contingent assets and liabilities. Actual results could differ from those estimates.

Investments

The Plan's investments are held by the Trustee. The Plan's investments are stated at fair value. If available, quoted market prices are used to value investments. For investments without quoted market prices, the net asset value is calculated and verified on a daily basis by the respective trusts and reported to the Trustee. Notes receivable from participants are valued at cost which approximates fair value. Investment income and gains and losses are allocated among participants on the basis of individual participant account balances. Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividend income is recognized when earned.

Payment of Benefits

Benefits are recorded when paid.

Net Appreciation (Depreciation) in Fair Value of Investments

The Plan presents, in the statements of changes in net assets available for benefits, the net appreciation (depreciation) in fair value of its investments consisting of interest, dividends, the realized gains (losses) and the unrealized appreciation (depreciation) on those investments.

3. Investments

Investment balances that represent five percent or more of the net assets available for benefits are as follows:

	2011	2010
Sponsor Company Common Stock	\$11,241,035	\$12,460,127
Schwab Stable Value Select Fund	8,386,216	7,815,385
JPMorgan Core Bond Fund	5,526,764	5,195,977
Schwab S&P 500 Index Select	4,554,994	4,367,113
Rainier Large Cap Equity	2,811,178	2,896,175
Artio International Equity A	*	3,377,520

* Artio International Equity A did not represent five percent or more of the net assets available for benefits during the current year.

During the years ended December 31, 2011 and 2010, the Plan's investments (including gains and losses on investments bought and sold, as well as held during the year) appreciated (depreciated) in value as follows:

	2011	2010
Mutual funds	\$ (772,250)	\$3,246,328
Common/collective trust fund	324,282	174,239
Sponsor company common stock	(687,280)	3,840,751
Self directed brokerage account	(18,869)	54,073
Net change in fair value	<u>\$(1,154,117)</u>	\$7,315,391

A portion of the Schwab Stable Value Fund, a common collective trust ("CCT"), is invested in guaranteed investment contracts ("GICs") which provide for benefit-responsive withdrawals by plan participants at contract value. The GICs are valued at fair value in Investments with an adjustment to reflect them at contract value on the Statement of Net Assets. The average yield for the CCT was 1.53% and 2.26% for the years ended December 31, 2011 and 2010, respectively. The average yield earned by the CCT, with an adjustment to reflect the actual interest rate credited to participants, was 4.59% and 2.73% for the years ended December 31, 2011 and 2010, respectively. The average yield earned by the CCT, with an adjustment to reflect the actual interest rate credited to participants, was 4.59% and 2.73% for the years ended December 31, 2011 and 2010, respectively. On November 8, 2011, Charles Schwab Bank announced its plans to terminate the Schwab Stable Value Fund effective as of the close of business on April 30, 2012. The elevated adjusted yield in 2011 was due to an accelerated distribution of gains through the crediting rate beginning December 1, 2011 in preparation for the termination of the fund.

4. Fair Value Measurements

The Company uses the three-tier fair value hierarchy which prioritizes the inputs used in measuring fair value as follows:

Level 1. Observable inputs such as quoted prices in active markets;

Level 2. Inputs, other than the quoted prices in active markets, that are observable either directly or indirectly; and

Level 3. Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

The asset's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. The following is a description of the valuation methodologies used for the investments measured at fair value, including the general classification of such instruments pursuant to the valuation hierarchy.

Common/collective trust fund

The common/collective trust fund's market value is based on the asset value per unit as determined by the collective trust as of the valuation date and are classified as Level 2.

Common stocks

Sun Hydraulics Corporation common stock and common stocks held in self-directed brokerage accounts are stated at fair value as quoted by the market close price on a recognized securities exchange on the last business day of the Plan year and are classified as Level 1.

Money market funds

The money market funds are valued at quoted prices in an active market, which represents the net asset values of shares held by the Plan at year-end and are classified as Level 1.

Mutual funds

Mutual funds and mutual funds held in self-directed brokerage accounts are valued at quoted prices in an active market, which represents the net asset values of shares held by the Plan at year-end and are classified as Level 1.

As of December 31, 2011, the Plan's investments measured at fair value on a recurring basis were as follows:

		Fair Value N	Measurements at 12/3	31/11 Using
Description	Assets Measured at Fair Value at 12/31/2011	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Common/collective trust fund	\$ 8,386,216		8,386,216	
Sponsor company common stock	11,241,035	11,241,035		_
Money market fund	332	332	_	
Mutual funds				
Target/Life Cycle/Allocation	4,716,228	4,716,228		
Fixed Income	6,301,800	6,301,800		
Large Company Equity	9,917,911	9,917,911		
Mid Company Equity	2,662,434	2,662,434		
Small Company Equity	2,100,461	2,100,461		
International/Global Equity	3,116,759	3,116,759		
Self directed brokerage accounts	1,343,595	1,343,595		
	\$49,786,771	41,400,555	8,386,216	

As of December 31, 2010, the Plan's investments measured at fair value on a recurring basis were as follows:

		Fair Value N	Aeasurements at 12/2	31/10 Using
Description	Assets Measured at Fair Value at 12/31/2010	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs	Significant Unobservable Inputs
		(Lever I)	(Level 2)	(Level 3)
Common/collective trust fund	\$ 7,815,385	—	7,815,385	
Sponsor company common stock	12,460,127	12,460,127		
Money market fund	234	234	—	
Mutual funds				
Target/Life Cycle/Allocation	4,123,064	4,123,064		
Fixed Income	5,195,977	5,195,977		
Large Company Equity	10,037,402	10,037,402		
Mid Company Equity	2,444,002	2,444,002		
Small Company Equity	2,135,173	2,135,173		
International/Global Equity	3,425,656	3,425,656		_
Self directed brokerage accounts	1,443,599	1,443,599		
	\$49,080,619	41,265,234	7,815,385	_

5. Non-participant Directed Investments

Information about the net assets and the significant components of the changes in net assets relating to the non-participant directed investments is as follows:

	2011	2010
Net assets:		
Sponsor company common stock	\$11,241,035	\$12,460,127
	Year I	
	Decem 2011	ber 31, 2010
Changes in net assets:	2011	2010
Contributions	\$ 2,192,882	\$
Net appreciation (depreciation)	(687,280)	3,840,751
Benefits paid to participants	(905,981)	(604,061)
Administrative expenses	(6,917)	(6,449)
Loans taken	(606,973)	(281,692)
Forfeitures	(81,748)	(44,800)
Transfers to participant directed investments	(1,123,075)	(112,547)
	\$(1,219,092)	\$2,791,202

6. Tax Status of the Plan

The Internal Revenue Service has determined and informed the Corporation by letter dated May 20, 2011, that the Plan and related trusts were designed in accordance with applicable sections of the Internal Revenue Code. Although the Plan has been amended since receiving the letter, the Corporation believes that the Plan is designed and is currently being operated in compliance with the applicable requirements of the Internal Revenue Code.

7. Plan Termination

Although it has not expressed any intent to do so, the Corporation has the right under the Plan to amend or discontinue the Plan at any time and to terminate the Plan, subject to the terms of ERISA. In the event of Plan termination, the participants will become 100% vested in their accounts and net assets of the Plan will be distributed to the participants and beneficiaries of the Plan.

8. Related Party Transactions

Certain Plan investments are shares of mutual funds and a common/collective trust managed by the Trustee and shares of the Corporation's common stock; and, therefore, these transactions qualify as party-in-interest.

9. Risks and Uncertainties

The Plan invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market, and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect participants' account balances and the amounts reported in the statements of net assets available for benefits.

10. Reconciliation of Financial Statements to Schedule H of Form 5500

The following is a reconciliation of net assets available for benefits per the financial statements at December 31, 2011 and 2010 to Schedule H of Form 5500:

	2011	2010
Net assets available for benefits per the financial statements	\$56,052,186	\$53,197,390
Adjustment from fair value to contract value for fully benefit responsive investment contract	57,468	196,566
Net assets available for benefits per Schedule H of Form 5500, line 1(l)	\$56,109,654	\$53,393,956

The following is a reconciliation of net increase in net assets available for benefits for the years ended December 31, 2011 and 2010 per the financial statements to net income on Schedule H of Form 5500:

	2011	2010
Net increase in net assets available for benefits per the financial statements	\$2,854,796	\$9,595,920
Adjustment from fair value to contract value for fully benefit responsive	\$2,034,790	\$9,393,920
investment contract	(139,098)	147,162
Net income per Schedule H of Form 5500, line 2(k)	\$2,715,698	\$9,743,082

SUPPLEMENTAL SCHEDULE

SUN HYDRAULICS CORPORATION 401(K) AND ESOP RETIREMENT PLAN

SCHEDULE OF ASSETS (HELD AT END OF YEAR)

December 31, 2011

Information furnished pursuant to item 4i, Schedule H of Form 5500 Employer identification number: 59 2754337

(a)	(b)	(c)	(d)	(e)
	Identity of issuer, borrower, lessor, or similar party	Description of investment including maturity date, rate of interest, collateral, par or maturity value	Cost	Market Value
*	Schwab Stable Value Select Fund	Common/Collective Trust	\$ #	\$ 8,386,216
*	Schwab Government Money Fund	Money Market Fund	#	332
	American Beacon Large Cap Value	Mutual Fund	#	1,575,834
	Artio International Equity A	Mutual Fund	#	2,212,409
	Blackrock Lifepath 2020	Mutual Fund	#	1,814,908
	Blackrock Lifepath 2030	Mutual Fund	#	1,813,488
	Blackrock Lifepath 2040	Mutual Fund	#	604,878
	Blackrock Lifepath 2050	Mutual Fund	#	53,157
	Blackrock Lifepath Ret I	Mutual Fund	#	429,796
	JPMorgan Core Bond Fund	Mutual Fund	#	5,526,764
	Loomis Sayles Small Cap Value	Mutual Fund	#	2,100,461
	Manning & Napier World Oppty A	Mutual Fund	#	513,718
	Morgan Stanley Mid Cap Grth P	Mutual Fund	#	478,641
	Oppenheimer Developing Mkts Y	Mutual Fund	#	390,632
	Perkins Mid Cap Value Inv	Mutual Fund	#	2,183,793
	Rainier Large Cap Equity	Mutual Fund	#	2,811,178
*	Schwab S&P 500 Index Select	Mutual Fund	#	4,554,994
	Thornburg Value R5	Mutual Fund	#	975,906
	Vanguard Inflation Protection Sec	Mutual Fund	#	775,036
	Personal Choice Retirement Account	Self Directed Brokerage Account	#	1,343,595
**	Sponsor Company Common Stock	Common Stock	5,266,245	11,241,035
	Notes receivable from participants	Various maturity dates with interest ranging from		
		5.25%-10.25%	#	2,569,301
	Total investments		\$5,266,245	\$52,356,072

* Represents a party-in-interest to the Plan.

** Represents both a party-in-interest to the Plan and a non-participant directed fund.

Investments are participant-directed and, therefore, cost information is not required.

See accompanying independent registered public accounting firm's report.

Exhibits:

Exhibit Number

23.1

Exhibit Description

.1 Consent of Independent Registered Public Accounting Firm – Mayer, Hoffman, McCann, P. C.

SIGNATURE

The Plan. Pursuant to the requirements of the Securities Exchange Act of 1934, the Plan Administrator has duly caused this annual report to be signed on its behalf by the undersigned hereunto duly authorized.

Sun Hydraulics Corporation 401(K) and ESOP Retirement Plan

June 15, 2012

By: <u>/s/ Tricia L. Fulton</u>

Tricia L. Fulton Chief Financial Officer (Principal Financial and Accounting Officer)

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our report dated June 15, 2012, accompanying the financial statements of the Sun Hydraulics Corporation 401(k) and ESOP Retirement Plan included on Form 11-K for the years ended December 31, 2011 and 2010. We hereby consent to the incorporation by reference of said report in the Registration Statements of Sun Hydraulics Corporation on Forms S-8 (File No. 333-30801, effective July 3, 1997, File No. 333-83269, effective July 20, 1999, File No. 333-62816, effective June 12, 2001, File No. 333-66008 effective July 27, 2001, File No. 333-119367, effective September 29, 2004, File No. 333-124174, effective April 19, 2005, File No. 333-158245, effective March 27, 2009, and File No. 333-177448 effective October 21, 2011).

/s/ Mayer Hoffman McCann P.C.

June 15, 2012 Clearwater, Florida